DEPARTMENT OF THE AIR FORCE

SUPPORTING DATA FOR FISCAL YEAR 1997

RESEARCH, DEVELOPMENT, TEST AND EVALUATION

DESCRIPTIVE SUMMARIES



MARCH 1996

VOLUME II



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THE DEPARTMENT OF THE AIR FORCE RESEARCH AND DEVELOPMENT PROGRAM BUDGET JUSTIFICATION FOR PROGRAM ELEMENTS OF FY 1997 BUDGET ESTIMATES **MARCH 1996**

INTRODUCTION AND EXPLANATION OF CONTENTS

- Development, Test and Evaluation (RDT&E) program to Congressional committees during the hearings on the Fiscal Year 1997 1. GENERAL: This document has been prepared to provide information on the United States Air Force (USAF) Research, Budget Estimates. This information is in addition to the testimony given by DoD witnesses.
- RDT&E program except those listed in Vol III. The formats and contents of this document are in accordance with the guidelines and Exhibits R-2 and R-3 provide narrative information for all RDT&E program elements and projects within the USAF FY97 requirement of the Congressional committees insofar as possible.
- b. The "Other Program Funding Summary" portion of the R-2 includes, in addition to RDT&E funds, Procurement funds and quantities, Military Construction appropriation funds on specific development programs, Operations and Maintenance appropriation funds where they are essential to the development effort described, and where appropriate, Department of Energy (DoE) costs.
- c. There are no FY97 "Facilities Exhibits" that contain information on major improvement to and construction of government owned facilities funded by RDT&E.
- 2; CLASSIFICATION: All R-2 and R-3 exhibits contained in Volumes I and II are UNCLASSIFIED. Classified R-2 and R-3 exhibits are now contained in Volume III. Classified pages bear the appropriate security classification and classified data is identified by use of brackets []. A list of R-2 and R-3 exhibits not included in this submission (due to the level of security classification and necessity of special security clearances) is located in Vol III.
- 3. COMPARISON OF FISCAL YEARS 1996 AND 1997 DATA. A direct comparison of Fiscal Years 1996 and 1997 data shown in this document with corresponding data in the Descriptive Summaries dated February 1995 will reveal differences. The table below highlights the relationship of the FY97 budget structure to the FY96 Budget approved by Congress:

TITLE	rons Project 4493 is FY97 New Start.	ing System (NWS) Project 2710 completed in FY96.	drons Project 3079 completed in FY96.	structive Suppression Project 2671 is FY96 New Start. Project 4375 terminated in FY96. Project 4516 is FY96 Congressional add.	connaissance System Project 3652 is FY97 New Start.	Aircraft Engine Component Improvement Program New PE. FY96 and prior effort funded in PE 0604268F.	ed Weapon (SFW) Improvement. FY 96 reclassification from PE 0604604F, project 1016 is pending.	-Surface Standoff Missile (JASSM) New Start in FY96	Combat Air Intellligence System Activities New Start in FY97.	Project 2784 transferred from PE 0604602F in FY96.	gaming and Simulation Project 4474 transferred to PE 0605704, project 1010. Project 1011 is FY96 New Start	T
	B-52 Squadrons	North Warning System (NWS)	F-111 Squadrons	Manned Destructive Sur	Podded Reconnaissance System	Aircraft Engine Compo	Sensor Fused Weapon (SFW)	Joint Air-to-Surface Sta	Combat Air Intellligenc	Seek Eagle	USAF Wargaming and Simulation	
PE	0101113F	0102412F	0207129F	0207136F	0207217F	0207268F	0207320F	0207325F	0207431F	0207590F	0207601F	0303131E



		PE 0604851F, project 13C4; PE 0101213F; and PE 0303131F, project 2832. Project 4521 (DIRECT) funded in project 2832 in FY96 and prior.
0303144F	Electromagnetic Compatibility Analysis Center	FY96 funding transferred from DISA for Joint Spectrum Center. Program returned to Air Force budget in FY97.
0303152F	World-Wide Military Command and Control Systems	Project 4485 was FY95 New Start. FY97 is first budget submission.
0303601F	Milstar Satellite Communications System (SPACE)	Project 2932 transferred from PE 0303606F in FY97 to project 2487.
0303606F	UHF Satellite Communications	Project 2932 effort and resources transferred to PE 0303601F, project 2487 in FY97.
0305145F	Arms Control Implementation	Project 4190 completed in FY96. Project 4520 is FY97 New Start.
0305164F	NAVSTAR Global Positioning System User Equip	Project 3028 effort related to Combat Survivor Evader Locator transferred to PE 0305176F.
0305176F	Combat Survivor Evader Locator	New PE in FY96. Project effort moved from PE 35164F, project 3028
0305906F	NCMC-TW/AA Systems	Project 4409 was FY95 New Start. FY97 is first budget submission for the project.
0305910F	SPACETRACK (SPACE)	Project 4239 completed FY96. Project 4241 is FY96 Congressional add.

0308610F	Information Management Automation Program	New Start in FY96. Congress transferred funds from Operations and Maintenance.
0401119F	C-5 Airlift Squadrons	Project 4523 is FY96 New Start. Projects 4377 and 4495 are FY97 New Starts.
0401130F	C-17 Aircraft	Effort and resources transferred from PE 0604231F to project 2569 in FY97. Included jointly on PE 0604231F descriptive summary.
0401214F	Air Cargo Materiel Handling	New Start in FY97. Projects 5120 and 5150 initiated for effort transferred from PE 0604704F, project 3852.
0401218F	KC-135s	Project 4403 is FY97 New Start.
0601102F	Defense Research Sciences	Starting in FY96, project 06SR funding is eliminated. Infrastructure costs and civilian salaries have been transferred to each technical project.
0602102F	Materials	Starting in FY96, project 06ML funding is eliminated. Infrastructure costs and civilian salaries have been transferred to each technical project.
0602201F	Aerospace Flight Dynamics	Starting in FY96, project 06FS funding is eliminated. Infrastructure costs and civilian salaries have been transferred to each technical project.
0602202F	Armstrong Lab Exploratory Development	In FY96, technical projects/funding from PEs 0602205F and 0602206F were transferred to PE 0602202F, projects 1121, 6302, 7231, 7719, and 7930. Projects in source PEs were eliminated.





		Starting in FY96, project 06MD funding is eliminated. Infrastructure costs and civilian salaries have been transferred to each technical project.
0602203F	Aerospace Propulsion	Starting in FY96, project 06PP funding is eliminated. Infrastructure costs and civilian salaries have been transferred to each technical project.
0602204F	Aerospace Avionics	Starting in FY96, project 06AA funding is eliminated. Infrastructure costs and civilian salaries have been transferred to each technical project.
0602601F	Phillips Lab Exploratory Development	Starting in FY96, project 06WL funding is eliminated. Infrastructure costs and civilian salaries have been transferred to each technical project.
0602602F	Conventional Munitions	Starting in FY96, project 06AL funding is eliminated. Infrastructure costs and civilian salaries have been transferred to each technical project. Project 2567 funding for included in project 2502.
0602702F	Command Control and Communications	Starting in FY96, project 06RA funding is eliminated. Infrastructure costs and civilian salaries have been transferred to each technical project.
0603108F	Integrated Data Systems	FY95 New Start. FY96 Congressional add in PE 0603728F. FY97 is first budget submission.
0603205F	Flight Vehicle Technology	Effort transferred from project 2508 to project 2978.

0603238F	Global Surveillance and Communication Technology	Effort transferred from project 4217 to project 4216.
0603401F	Advanced Spacecraft Technology	Project 0003 is FY96 Congressional add.
0603432F	Polar Adjunct (SPACE)	New Start in FY95. FY97 is first budget submission.
0603771F	Industrial Preparedness Manufacturing Technology	Transferred to PE 0708011F in FY96.
0603790F	NATO Research and Development	New Start in FY97. Transfer to Project NATO from PE 0603790D.
0603851F	Intercontinental Ballistic Missile Dem/Val	Effort in project 1024 related to DIRECT transferred to PE 0303131F, project 4521.
0603854F	Global Broadcast Service (GBS)	New Start in FY96
0603855F	Space Architect Office	New Start in FY96
0604201F	Aircraft Avionics Equipment Development	Project 4017 terminated in FY96.
0604231F	C-17 Program	Transferring to PE 0401130F in FY97. Included jointly on descriptive summary with PE 0401130F.
0604249F	Night/Precision Attack	Project 2693 terminated in FY96.
0604268F	Aircraft Engine Component Improvement Program	Transferred to PE 0207268F in FY97.
0604270F	EW Development	Project 3945 is FY97 New Start to combine effort from multiple formerly classified programs.
0604441F	Space Based Infrared Architecture EMD (SPACE)	Project 0002 completed in FY96.



Project 2784 transferred to PE 0207590F in FY96.	Project 1016 will be reclassified to PE 0207320F in FY96.	Project 2479 completed in FY96. Project 3852 transferred to PE 0401214F, projects 5120 and 5150 in FY97.	Project 3812 is FY96 New Start.	Project 2524 completed in FY96.	Project 13C4 created in FY97 to consolidate related efforts. The portion related to DIRECT transferred to PE 0303131F, project 4521. Project 133B completed in FY96.	New Start in FY96. Funds transferred to project 1010 from PE 0207601F, project 4474.	FY96 Congressional add transferred to PE 0604759, project 2904.	Transferred from PE 603771F in FY96.	Project 0002 initiated for FY95 and FY96 based on Congressional direction.
Armament/Ordnance Development	Submunitions	Common Support Equip Dev	Life Support Systems	Computer Resource Technology Transition	Intercontinental Ballistic Missile EMD	Theater Air Defense BMC4I	Navigation/Radar/Sled Track Test Support	Industrial Preparedness	NATO Joint STARS
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.09	0604201F	Integrated Avionics Planning and Development	<i>L</i> 99
14	0603108F	Integrated Data Systems (IDS)	596
42	0603260F	Intelligence Advanced Development	526
94	0604750F	Intelligence Equipment	1005
209	1001004F	International Activities	1706
54	0603800F	Joint Adv Strike Tech Program	909
66	0207325F	Joint Air-to-Surface Standoff Missile (JASSM)	657
84	0604618F	Joint Direct Attack Munition	918
6	0604779F	Joint Interoperability Tactical Command/Control	1027
. 06	0604727F	Joint Standoff Weapons Systems	975
127	0102325F	Joint Surveillance System	1190
95	0604754F	Joint Tactical Information Distribution System	1010
96	0604770F	JSTARS	1020
199	0401218F	KC-135 Squadrons	1624
87	0604706F	Life Support System	945
13	0603106F	Logistics Systems Technology	255
104	0604759F	Major Test And Evaluation Investment	1088
133	0207136F	Manned Destructive Supression	1242
2	0602102F	Materials	33
177	0305119F	Medium Launch Vehicles (Space)	1457

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PROGRAM ELEMENT TITLE	Milstar LDR/MDR Sat Comm (Space) Milstar Terminals Sys (Space) Milstar Terminals Sys (Space) Minimum Essential Emer Comm Network (MEECN) Mission Planning Systems Mipwr Pers & Ting Development Munitions Dispenser Development Mutional Airspace System (NAS) National Airspace System (NAS) National Airspace System (NAS) NATO Cooperative Research & Development NATO JSTARS NATO Goperative Research & Development NATO JSTARS Navistr Global Pos Sys (User Eq) (Space) NAVSTAR GPS (Space/Grd Segments) (Space) NAVSTAR GPS (Space/Grd Segments) (Space) NCMC-TW/AA Systems Night Precision Attack North Warning System Nuclear Weapons Support Nudet Detection System (Space) Personnel, Training, and Simulation Technology Phillips Laboratory Exploratory Development Podded Reconnaissance System Polar Adjunct (Space) Pollution Prevention Product/Reliable/Avail/Maintain Prog Ranch Hand II Epidemiology Study Rand Project Air Force Rocket System Launch Program
) PE	0604479F 0303601F 0303131F 0208006F 0604243F 0604243F 0603790F 1001018F 0603790F 1001018F 0603790F 0305164F 0305164F 0305164F 0305206F 0604249F 0604222F 0604222F 0604222F 0604222F 0604222F 0604222F 0604222F 0604222F 0604222F 0604222F 0604222F 0604222F 0604222F 0604222F 0604222F 0604222F 0604222F 0604222F 0604222F 0605306F
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1433	1462	1343	868		389	999	855	432	1057	1561	692	868		1684	1202	1268	1307	1079	1119	1296	1110	1325	1377	1062	1477	1447
Satellite Control Network (Space)	Security and Investigative Activities (S&IA)	Seek Eagle	Sensor Fuzed Weapon (SFW) (comprises R-1 Line Nos: 81 and 142)	(Single K-2 covers this PE and PE 0604604F, Submunitions, R-1 Line No. 81)	Space and Missile Rocket Propulsion	Space Based IR Arch (Dem/Val) (Space)	Space Based IR Arch (EMD) (Space)	Space Systems Environmental Interactions Technology	Space Test Program (Space) (Comprises R-1 Line Nos 45 and 101)	Spacetrack (Space)	Specialized Undergraduate Pilot Trng	Submunitions (comprises R-1 Line Nos: 81 and 142)	(Single R-2 covers this PE and PE 0207320F, R-1 Line No. 142)	Support Systems Development	Surveillance Radar Stations/Sites (SRS)	Tactical Aim Missile	Tactical Airborne Command & Control System	Target Systems Development	Test And Evaluation Spt	Theater Air Control System	Theater Air Defense BMC4I	Theater Battle Management(TBM) C4I	Theater Missile Defense	Threat Simulator Development	Titan Space Launch Vehicles (Space)	Traffic Control, Approach, and Landing Systems
0305110F	0305128F	0207590F	0207320F		0603302F	0603441F	0604441F	0603410F	0603402F	0305910F	0604233F	0604604F		0708611F	0102411F	0207161F	0207419F	0604258F	0605807F	0207412F	0605704F	0207438F	0208060F	0604256F	0305144F	0305114F
		153	142		28	. 20	75.	31	101	192	99	81		206	128	136	145	103	111	143	108	151	158	102	182	176

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169`	0303152F	World-Wide Military Command and Control Systems	1422



RD	RDT&E BUDGET ITEM JUST	TIFICA	TION S	IFICATION SHEET (R-2 Exhibit)	-2 Exhi	bit)		DATE	March 1996	96
BUDGET ACTIVITY 5 - Engineering al	вироет астіліту 5 - Engineering and Manufacturing Developme	ent	PE N	PE NUMBER AND TITLE 0604321F Combat Intelligence System	intle combat Ir	ntelligend	e Syster	۽		
PROJECT NO. AND NAME 2758 Combat Intelligence System	yence System									
	COST (\$ In Thousands)	FY 1995 Actual	1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
2758 Combat Intelligence System	System	8,313	3,617	1,943	1,625	995	1,024	1,038	0	TBD
(U) Note: AF will requ	(U) Note: AF will request reclassification of RDT&E funds in PE 0207431F.	PE 020743	IF.							
(U) A. Mission Descriptory Combat Intelligence provide warfighters with intelligence information component and unit leve builds and maintains incapability to receive all sand compatible with other planners.	(U) A. <u>Mission Description and Budget Item Justification</u> (U) Combat Intelligence System (CIS) is the single, standard Air Force intelligence automation system optimizing both component and unit-level intelligence functions to provide warfighters with the most accurate and timely intelligence data available. CIS is the core capability for automating the receipt, correlation, and dissemination of intelligence and operational systems supporting combat planning and execution. It provides an automated capability at the component and unit levels to rapidly receive and process All-Source intelligence data to support Contingency Theater Automated Planning System (CTAPS) as the CIS builds and maintains in-theater situational awareness while deploying to the theater and provides indications and warning (I&W) support upon arrival. CIS provides the capability to receive all source intelligence near-real-time from national, theater, tactical reconnaissance, and intelligence functions. CIS is electronically interoperable and compatible with other intelligence systems to provide an integrated system capable of intelligence support to warfighters, decision makers, battle planners and mission planners.	ir Force intoce data avanal systems urce intelliguate to the national, the national, the egrated systems	elligence au ilable. CIS supporting gence data to e theater an eater, tactics tem capable	tomation syst is the core cs combat plant support Cor d provides in all reconnaiss of intelligent	tem optimizi tpability for ning and ex ntingency Tl dications an ance, and in	ing both corr automating i ecution. It p heater Auton d warning (I telligence fui	the receipt, of the receipt and the receipt an	unit-level in correlation, a utomated cal ing System (i rt upon arrive S is electroni nakers, battle	ntelligence fi and dissemir pability at th CTAPS) as t al. CIS pro ically interol	nctions to nation of ne the CIS wides the perable nd mission
(U) The category of rest current capability as the	(U) The category of research being performed in this program element is Engineering and Manufacturing Development because it is developing new and upgrading current capability as the intelligence segment to Theater Battle Management Core Systems (TBMCS)	element is E Managemer	Ingineering	and Manufac ems (TBMCS	turing Deve	lopment bec	ause it is de	veloping nev	w and upgra	ding
(U) Acquisition Approa	(U) Acquisition Approach: Full and open competition leading to		a cost plus award fee contract.	contract.						
(U) <u>FY 1995</u> - (U) \$1,575 - (U) \$4,688 - (U) \$2,050 - (U) \$8,313	Implement Special Compartmented Information (SCI) level correlation capability and begin to enhance capability. Continue integrating upgrades to CIS including mapping, imagery, multimedia, and air/ground situations. Begin CIS software development under TBMCS.	nformation including 1 er TBMCS.	(SCI) level i	correlation ca	apability and media, and ε	l begin to enl air/ground si	hance capab tuations.	ility.		
(U) <u>FY 1996</u> - (U) \$ 588 - (U) \$2,761	Complete SCI level correlation enhancements. Continue CIS software development under TBMCS to include targeting, damage assessment, and mission reporting.	icements. inder TBM	CS to includ	le targeting, (famage asse	ssment, and	mission rep	orting.		
			Page 1 o	Page 1 of 5 Pages				Exhibit R-2	2-2	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-2	Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604321F Com	PE NUMBER AND TITLE O604321F Combat Intelligence System	ystem
PROJECT NO. AND NAME 2758 Combat Intelligence System			
 (U) \$ 268 Conduct studies for future CIS intelligence interoperability with Global Command and Control System. (U) \$3,617 Total 	bility with Global Com	nand and Control System.	
 (U) FY 1997 (U) \$1,404 (D) \$1,404 (D) \$432 (D) \$107 (D) \$107 (D) \$107 (E) Continue studies for CIS intelligence interoperability. (E) \$1,943 (E) \$1,943 	TBMCS.		
(U) B. Program Change Summary (\$ in Thousands)			T. 44-7.
Previous President's Budget Appropriated Value	71995 FY 1996 8,476 3,938 8,666 3,938	$\frac{\text{FY } 1997}{2,035}$	Cost TBD
 (U) Adjustments to Budget since FY96 PB a. General Congressional reduction b. SBIR c. Omnihus and Other Above Threshold 	-190 -160 -161 -81 -80		
programmings Below Threshold Reprogramming justment to Budget Years Since FY 96 PB irrent Budget Submit/President's Budget	-2 8,313 3,617	-92 1,943	TBD
(U) Change Summary Explanation: Funding: FY97 reduction due to Operations & Maintenance RDT&E reduction.	3 reduction.		
Schedule: Not Applicable			
Technical: Not Applicable			
P_{i}	Page 2 of 5 Pages		Exhibit R-2



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUST	IFICAT	ION SHE	ET (R-	2 Exhib	Ē.	Δ	DATE March 1996	1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	evelopme	lent	PE NUM 0604	PE NUMBER AND TITLE 0604321F Com	LE mbat Int	ЭТITLE Combat Intelligence System	System		
PROJECT NO. AND NAME 2758 Combat Intelligence System									
(U) C. Other Program Funding Summary (\$ in Thousands)	Thousands)							To	Total
(U) RDT&E, PE 0207431F, Combat Air	FY 1995 0	FY 1996 0	FY 1997 7,749	FY 1998 6,966	FY 1999 5,194	FY 2000 4,431	FY 2001 3,581	Complete	Cost
Intelligence System (CAIS) (U) Other Procurement, PE 0207431F,	5,406	1,973	2,269	1,976	1,204	1,210	1,192	Cont	TBD
(U) Other Procurement, PE 0207414F, Combat Intelligence System (Proc)	17,596	9,114	9,716	8,705	5,264	5,391	5,511	Cont	TBD
(U) D. Schedule Profile	FY 1995 2 3	4	$\frac{FY}{1}$	FY 1996 2 3	4 1	FY 1997 2 3	4		
(U) Formal Request for Proposal (U) CIS 1.1 Release (U) Contract Award (U) Development Test & Evaluation (DT&E) Start (U) DT&E Complete for Software Increment (S/W) #1 (U) Initial Operational Test & Evaluation (IOT&E) Start (U) IOT&E Complete for S/W #1 (U) Initial Operational Capability (U) Initial Operational Capability	×	×		×	×× × ×	×	N.		
			Page 3 of 5 Pages	Pages				Exhibit R-2	

RDI	RDT&E PROGRAM ELEMENT/P	RAM ELI	EMENT/P	ROJECT COST BREAKDOWN (R-3)	COST B	REAKDO	WN (R-	<u>§</u>	DATE	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	y and Manuf	acturing E)evelopme	nt	PE NUMBER AND TITLE 0604321F Com	AND TITLE	at Intellig	PE NUMBER AND TITLE O604321F Combat Intelligence System	em	
PROJECT NO. AND NAME 2758 Combat Intelligence System	ME elligence Syst	em					,			
(U) A. Project Cost Breakdown (\$ in Thousands)	it Breakdown (\$	in Thousand	<u>ছ</u>							
				FY 1995		FY 1996	FY 1997			
(U) Software Development (U) Test and Evaluation	ment			5,425		2, <i>577</i> 116	1,132			
(U) Program Management Support	ment Support			968	· • •	297	259			
(U) Government Engineering Support	incering Support	•		203	. m	251 105	201			
(U) System Engineering Support (U) Miscellaneous (U) PBD Reductions	mg Support			743 327 262	o	661	CII			
(U) Total				8,313		3,617	1,943		٠	
(U) B. Budget Acquisition History and Planning Information	uisition History	and Plannin		(\$ in Thousands)	(spi					
Performing Organizations:	zations:									
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Total <u>Program</u>	
Product Development Organizations BTG, Inc SS/CPAF	nt Organizations SS/CPAF	Sep 92	3,154	3,154		1,575	588		3,101	
Loral Cmd & Ctrl Systems and various others	SS/CPAF	Oct 95	TBD	TBD		4,884	2,421	1,367	TBD	
F19628-95-C0143										
				Pa	Page 4 of 5 Pages	es			Exhibit R-3	63





RDT&E PROGRAM ELEMENT	OGRAN	1EEE		PROJECT	COST BREAKDOWN (R-3)	REAKDO	WN (R-3		рате Ма	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	nufactur	ing De	velopme	nent	PE NUMBER AND TITLE 0604321F Com	AND TITLE F Comba	PE NUMBER AND TITLE 0604321F Combat Intelligence System	nce Syste	m,	
PROJECT NO. AND NAME 2758 Combat Intelligence System	System									
Contractor or Contract Government Method/Type Av Performing or Funding Ob Activity Vehicle Da Support and Management Organizations TEMS Ongoing Various Ongoing	ype Award or g Obligation <u>Date</u> nizations	d or ation	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995 743 968	Budget FY 1996 195 297	Budget FY 1997 211 259	Total <u>Program</u> TBD TBD	
Test and Evaluation Organizations Test Support Ongoing	<u>SII</u>					143	116	106	TBD	
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	story and P	lanning	Information	n Continued (§ in Thousands	~				
Government Furnished Property: Not Applicable	rty: Not Ap	plicable		÷						
Contract Method/Type Item or Funding Description Vehicle	ype Award or g Obligation <u>Date</u>	d or ation	Delivery <u>Date</u>		Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Total <u>Program</u>	
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	ent				3,240 2,271 87	6,459 1,711 143	3,009 492 116	1,367 470 106	138D 138D 138D	
Total Project					5,598	8,313	3,617	1,943	TBD	
									! : :	
				I	Page 5 of 5 Pages	Sä			Exhibit R-3	3

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

March 1996

5 - Engineering and Manufacturing Development

BUDGET ACTIVITY

PENUMBER AND TITLE 0604441F Space Based IR Arch (EMD) (Space)

		TV 400F	7,4006	EV 1007	1008	1000	EV 2000	EV 2001	Cost to	Total Cost
	COST (\$ In Thousands)	Actual	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Complete	100
	Total Program Element (PE) Cost	112,981	162,276	173,290	300,155	540,530	631,291	656,151	Continuing Continuing	Continuing
3616	3616 SBIRS High Element EMD	97,681	153,178	173,290	300,155	540,530	631,291	656,151	Continuing	Continuing
0002	0002 Miniature Sensor Technology Integration (MSTI)	15,300	960'6	0	0	0	0	0	0	24,398

(U) A. Mission Description and Budget Item Justification

Budget Activity Research Category Engineering and Manufacturing Development. Funding is also provided in FY95 and FY96 for the Miniature Sensor Technology (SBIRS) will incorporate new technologies that would enhance detection, improve reporting of ICBM, SLBM and tactical ballistic missiles, and provide critical mid-Defense Support Program (DSP). This Program Element funds SBIRS Engineering and Manufacturing Development (EMD) activities, and is therefore assigned to (U) The purpose is to develop a system to provide increased performance to meet requirements in US Space Command's Capstone Requirements Document. The Elliptical Orbits (HEO) and Low Earth Orbits (LEO) and an integrated, centralized ground station serving all space elements of the SBIRS system, as well as the system's primary mission is to provide initial warning of a ballistic missile attack on the US, its deployed forces or its allies. The Space-Based InfraRed System course tracking and discrimination data for national and theater missile defense. The system will consist of satellites in Geosynchronous Orbits (GEO), Highly Integration (MSTI) and Cobra Brass (CB) programs. Funding for the SBIRS program is also provided by PE #603441F and PE #305915F.

(U) Acquisition Strategy:

(U) The SBIRS program is a lead program for acquisition streamlining. Program documentation has been consolidated into a single document, the Single Acquisition and Management Plan (SAMP). The pre-EMD contracts were competed in a full and open competition. Two contracts were awarded to Lockheed/Loral/Aerojet and Hughes/TRW for the pre-EMD phase, and a downselect to a single contractor is planned for the EMD phase.

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Exhibit R-2



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ET ITEM	JUSTIF	ICATIO	N SHEE	T (R-2 E	xhibit)		DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	ring Deve	lopment		PE NUMBER AND TITLE 0604441F Space	AND TITLE	Based	R Arch (I	PENUMBER AND TITLE 0604441F Space Based IR Arch (EMD) (Space)	(e)	
(U) B. Program Change Summary (\$ in Thousands)	Thousands)						Total			
(U) Previous President's Budget			FY 1995 112,981	FY 1996* 152,219	FY 1997 198,982		Cost Continuing			
(U) Appropriated Value			104,000	172,219						
a. Cong Gen Reductions b. SBIR			- 1,864	-4,048 -3779						
c. BPAC Realignment d. Omnibus or Other Above Threshold Reprogram	Reprogram		13,000	-2116						•
(U) Adjustments to Budget Years Since FY96 PB (U) Current Budget Submit/President's Budget	'96 PB dget		112,981	162,276	- 25,692 173,290		Continuing			
(U) Change Summary Explanation: Funding: Adjustments to Budget Years Since FY96 PB: In FY97, a \$15,400 decrease due to a transfer of funds for the Mission Control Station (MCS) into proper account (Military Construction), a \$2,000 decrease due to reductions in phenomenology studies cut, a \$630 decrease for Operations & Maintenance support, and a \$7,301decrease for inflation savings. In addition, \$19,895 transferred from procurement by Congress and moved into RDT&E in FY96.	ears Since FY Construction) 1 a \$7,301dec	🌣 🕏	FY97, a \$15, ecrease due t lation saving	400 decrease to reductions ss. In additic	due to a tra in phenome in, \$19,895 t	nsfer of func nology studi ransferred fi	is for the Mi es cut, a \$63 rom procure	: In FY97, a \$15,400 decrease due to a transfer of funds for the Mission Control Station (MCS) 000 decrease due to reductions in phenomenology studies cut, a \$630 decrease for Operations & or inflation savings. In addition, \$19,895 transferred from procurement by Congress and moved	In FY97, a \$15,400 decrease due to a transfer of funds for the Mission Control Station (MCS) into the 30 decrease due to reductions in phenomenology studies cut, a \$630 decrease for Operations & rinflation savings. In addition, \$19,895 transferred from procurement by Congress and moved into	the
* The FY96 PB amount does not reflect funding reductions that are reserved for other DoD reprogramming needs (\$1,799).	ct funding re	ductions tha	t are reserved	d for other D	oD reprogra	mming need	ls (\$1,799).			
Schedule: Not Applicable.										
Technical: Not Applicable.										1 -
(U) C. Other Program Funding Summary (\$ in Thousands)	y (\$ in Thous	<u>sands)</u>								
(U) Other Procurement	FY 1995	FY 1996	<u>FY 1997</u> 25,939	FY 1998 41,548 16,949	FY 1999 19,865 15,952	FY 2000 9,704 16,947	FY 2001 11,123 16,945	To Complete Continuing	Total Cost Continuing	
			Page	, Page 2 of 12 Pages		`	,	Exhibit R-2	t R-2	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R	2-2 Exhibi	(t)	DATE March	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604441F Spac	ппс Врасе Base	d IR Arch (F	PE NUMBER AND TITLE 0604441F Space Based IR Arch (EMD) (Space)	
Related RDT&E: (U) PE #305911F - Defense Support Program (DSP) (U) PE #603216C - TALON SHIELD (BMDO Advanced Development)	FY 1998 FY	FY 1999 FY 2000	<u>)0</u> FY 2001	To Total <u>Complete</u> <u>Cost</u>	[i]
(U) D. Schedule Profile					
(U) DRB Architecture Approval (U) DAE Program Review (U) RFP Release (U) RFP Release (U) System Requirements Review (U) System Functional Review (U) DAE Program Review (U) Consolidated Grad IOC for DSP (U) Consolidated Grad IOC for DSP (U) First Satellite Delivery (U) First GEO Launch (U) First HEO Launch (U) First HEO Launch	FY 1996 2 3 X	4	FY 1997 2 3	4	
Pas	Page 3 of 12 Pages			Exhibit R-2	





RDT&	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	ION SE	HEET (R	-2 Exhil	oit)		DATE M	March 1996	9
BUDGET ACTIVITY 5 - Engineering and M	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ent	PE NU 060	PE NUMBER AND TITLE 0604441F Spac	тге расе Ва	sed IR Ar	ch (EMD	PE NUMBER AND TITLE O604441F Space Based IR Arch (EMD) (Space)		
PROJECT NO AND NAME 3616 SBIRS High Element EMD	t EMD								:	
COST	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3616 SBIRS High Element EMD		97,681	153,178	173,290	300,155	540,530	631,291	656,151	Continuing	Continuing
(U) A. Mission Description (U) The purpose is to de system's primary mission (SBIRS) will incorporate course tracking and discribiliptical Orbits(HEO) an Defense Support Program program is also provided	A. Mission Description and Budget Item Justification (U) The purpose is to develop a system to provide increased performance to meet requirements in US Space Command's Capstone Requirements Document. The system's primary mission is to provide initial warning of a ballistic missile attack on the US, its deployed forces or its allies. The Space-Based InfraRed System (SBIRS) will incorporate new technologies that would enhance detection, improve reporting of ICBM. SLBM and tactical ballistic missiles, and provide critical mid-course tracking and discrimination data for national and theater missile defense. The system will consist of satellities in Geosynchronous Orbits (GEO), Highly Elliptical Orbits(HEO) and Low Earth Orbits (LEO) and an integrated, centralized ground station serving all space elements of the SBIRS system, as well as the Defense Support Program (DSP). This Program Element funds SBIRS Engineering and Manufacturing Development (EMD) activities. Funding for the SBIRS program is also provided by PE #603441F and PE #305915F.	used performat a ballistic mis hance detectic theater missile an integrated, i funds SBIRS 15F.	nce to meet sile attack on, improve defense. T centralized Engineerin	requirements in the US, its reporting of he system w ground stati g and Manul	s in US Spaces deployed for ICBM. SLI ill consist of on serving a facturing De	e Command bress or its a 3M and tacti f satellites in ill space eler velopment (lies. The Scapstone lies. The Scal ballistic Geosynchr nents of the EMD) activ	Requirement pace-Based Imissiles, amonous Orbits SBIRS systetities. Fundities.	sed performance to meet requirements in US Space Command's Capstone Requirements Document. The a ballistic missile attack on the US, its deployed forces or its allies. The Space-Based InfraRed System hance detection, improve reporting of ICBM. SLBM and tactical ballistic missiles, and provide critical theater missile defense. The system will consist of satellites in Geosynchronous Orbits (GEO), Highly an integrated, centralized ground station serving all space elements of the SBIRS system, as well as the funds SBIRS Engineering and Manufacturing Development (EMD) activities. Funding for the SBIRS 15F.	t. The tem tical mid-tical mid-tike
(U) <u>FY 1995</u> - (U) \$46,000 - (U) \$13,300 - (U) \$19,000 - (U) \$13,000 - (U) \$13,000 - (U) \$13,000 - (U) \$13,000	Award Pre-EMD contracts for Space and Ground segment developme Begin Space Based InfraRed technology and phenomenology projects Defense Acquisition Executive (DAE) Program Review (Feb 95) Continue Program Office activities RFP Release for Pre-EMD phase (Mar 95) Contract Award (Aug 95) Contract Award (Aug 95) Continue Cobra Brass Project MSTI funds moved from BPAC 3616 to 0002 within this PE	pace and Grannology and (DAE) Progrities e (Mar 95)	ound segme i phenomend am Review 2 within thi	Space and Ground segment development chnology and phenomenology projects (DAE) Program Review (Feb 95) ities se (Mar 95)	s				·	
(U) <u>FY 1996</u> - (U) \$107,700 - (U) \$21,200 - (U) - (U) - (U) - (U)	Continue Pre-EMD contracts for Space and Ground segment Developme Continue Space Based InfraRed technology and phenomenology projects DAE Program Review (Jun 96) for EMD Phase Continue Program Office activities Source Selection for down-select for EMD Phase (Jun 96)	r Space and technology for EMD Ph ties t for EMD F	Ground seg and phenon ase hase (Jun 9)	for Space and Ground segment Development at technology and phenomenology projects () for EMD Phase vities	pment					
			Page 4 of 12 Pages	12 Pages				Exhibit R-2	2-2	

RDT&	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ION SHEET (R-2 Exhib	it)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and N	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604441F Spac	Space Base	Space Based IR Arch (EMD) (Space)	D) (Space)
PROJECT NO. AND NAME 3616 SBIRS High Element EMD	nt EMD				
- (U) \$2,078 - (U) \$153,178	MSTI funds to be moved from BPAC 3616 to 0002 within this PE Total	0002 within this PE			
(U) <u>FY 1997</u> - (U) \$141,500 - (U) \$19,190 - (U) \$12,600 - (U) \$173,290	Initiate EMD contracts for Space and Ground Continue Program Office activities Continue Space Based InfraRed technology at Total	e and Ground segment Development es technology and phenomenology projects	ent rojects		
(U) B. Program Change Summary (\$ in Thousands)	ummary (\$ in Thousands)				
			1	Total	
(U) Previous President's Budget	FY 1995 dget 102,136	$\frac{\text{FY } 1996}{152,219}$	$\frac{\text{FY } 1997}{198,982}$	<u>Cost</u> Continuing	
(U) Appropriated Value	104,000	172,219			
	1,864 - 1,864				
b. SBIR		-3779			
c. Omnibus or Above Thr	c. Omnibus or Above Threshold Reprogramming d. BPAC Realignment (1)				
e. BPAC Realignment (2)	•	-9400			
(U) Adjustments to Budget Years Since FY96 PB(U) Current Budget Submit/President's Budget	Years Since FY96 PB President's Budget 97,681	153,178	- 25,692 173,290	Continuing	
(U) Change Summary Explanation: Funding: Adjustments to Baproper account (Management, and a \$7,	dget Years Since FY96 PB:ülitary Construction), a \$2,00500 decrease for inflation sav	\$15,400 decrease du due to reductions in p	e to a transfer of	f funds for the Missio studies, a \$792 decre	In FY97, a \$15,400 decrease due to a transfer of funds for the Mission Control Station (MCS) into the 0 decrease due to reductions in phenomenology studies, a \$792 decrease for Operations & Maintenance ings.

Exhibit R-2

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Schedule: Not Applicable.



RDT&E BUDG	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SATION	I SHEET	(R-2 E	xhibit)		DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	uring Development		PE NUMBER AND TITLE 0604441F Spac	ND TITLE Space	Based	R Arch (PE NUMBER AND TITLE OCCOMPAND (Space) (Space)	(e)	
PROJECT NO. AND NAME 3616 SBIRS High Element EMD		:							
Technical: Not Applicable.									
(U) C. Other Program Funding Summary (\$ in Thousands)	ary (\$ in Thousands)								
(U) Other Procurement (U) Operations & Maintenance	FY 1995 FY 1996 E	FY 1997 25,939	FY 1998 F 41,548 16,949	FY 1999 19,865 15,952	FY 2000 9,704 16,947	FY 2001 11,123 16,945	To Complete Continuing Continuing	Total Cost Continuing Continuing	
(U) D. Schedule Profile									<u>-</u>
	FY 1995	1	FY 1996 2 3	4	1 E	$\frac{\text{FY 1997}}{2}$	4		
 (U) DRB Architecture Approval (U) DAE Program Review (U) RFP Release (U) Pre-EMD Contract Award (U) System Requirements Review (U) System Functional Review (U) DAE Program Review (U) EMD Authority To Proceed (ATP) (U) Other Events Beyond Budget Years (U) PDR (HIGH Space Segment) (U) Consolidated Grnd IOC for HIGH (U) First Satellite Delivery (U) First HEO Launch (U) First HEO Launch 	88 99 99 01	×	×	××	×				. Y 100 - 10
		Page	Page 6 of 12 Pages				Exhibit R-2	it R-2	

RD1	RE PROC	SRAM EL	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ROJECT	COSTB	REAKDO	JWN (R-	<u>8</u>	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	g and Manu	facturing	Developmen	ţ	PE NUMBER AN 0604441F		Based IR	Arch (El	Space Based IR Arch (EMD) (Space)	(6	
PROJECT NO. AND NAME 3616 SBIRS High Element EMD	.ME n Element EM	Q									
(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u>	it Breakdown (\$ in Thousan	विष्ठ								
				FY 1995		FY 1996	FY 1997				
(U) Pre-EMD Contract	act			46,000		007,700	0 141.500				
				5,000		10,800	6,600				
(U) Frienomenology (U) Cobra Brass				0,300		0,400	000,0				
	n Office Suppor			8,361		11,000	7,960				
	, BPAC Realignr	nent		7,020		11,200 2,078	11,230				
(U) Total				97,681		153,178	173,290				
(U) B. Budget Acquisition History and Planning Information	uisition Histor	y and Planni	ng Information (n (S in Thousands)	(sp						
Performing Organizations:	zations:										
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations	nt Organizations	<u>s</u> In 195	TRD	161 000	c	46 000	107 700			153,700	
TBD(EMD)	C/CPAF	Oct 96	TBD	TBD	0	0	0	141,500	Cont	Cont	
TBD(Technology)	TBD	Sep 95	TBD	27,500	0	5,000	10,800	009'9	0	22,400	•
TBD(Phenomena)	TBD	Sep 95	TBD	26,800	0	8,300	10,400	6,000	0	24,700	
				É		į			ה היייהיי	ç	
				La	rage / of 12 rages	ges			באוווטוו	2-2	





RDT&E PF	PROGRAM ELEMENT	LEMENT/PR	/PROJECT	COST BREAKDOWN (R-3)	REAKDO	WN (R-	3)	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	anufacturing	Developmen		PE NUMBER AND TITLE 0604441F Spac	AND TITLE	Based IF	Arch (EN	Space Based IR Arch (EMD) (Space)	(6	
PROJECT NO. AND NAME 3616 SBIRS High Element EMD	it EMD									
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle Sandia National TBD Laboratory (Cobra Brass)	ype Award or ig Obligation <u>Date</u> Sep 95	Performing Activity <u>EAC</u> TBD	Project Office <u>EAC</u> 10,000	Total Prior to <u>FY 1995</u> 0	Budget FY 1995 10,000	Budget FY 1996 0	Budget FY 1997 0	Budget to <u>Complete</u> 0	Total <u>Program</u> 10,000	
Support and Management Organizations Aerospace Corp MORD Sep Prgm Mgmt Supt Various Sep	anizations Sep 95 Sep 95			0 0	7,020 8,361	11,200	11,230	Cont	Cont	
Test and Evaluation Organizations Not Applicable.	tions									
(U) B. Budget Acquisition History and Planning Information Continued (\$\subseteq\$ in Thousands)	Fistory and Plann	ing Information (Continued (\$	in Thousand	ଜ					
Government Furnished Property: Not Applicable.	erty: Not Applica	ıble.								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	nent				128,900 22,200	154,100 19,190	Cont	Cont		
Adjustment for BPAC Realignment	unent				2,078					
Total Project					153,178	173,290	Cont	Cont		
			Pa	Page 8 of 12 Pages	žes			Exhibit R-3	R-3	

RDT&E	RDT&E BUDGET ITEM JUST	TIFICA	TION SH	IEET (R	IIFICATION SHEET (R-2 Exhibit)	oit)		DATE M	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Ma	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ent	PE NU 060	PE NUMBER AND TITLE 0604441F Spac	ऽमास Space Based IR Arch (EMD) (Space)	sed IR A	ch (EMD) (Space)		
PROJECT NO. AND NAME 0002 Miniature Sensor Ter	ROJECT NO. AND NAME 0002 Miniature Sensor Technology Integration (MSTI)									
) TSOS	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
0002 Miniature Sensor Technology Integration (MSTI)	y Integration (MSTI)	15,300	860'6	0	0	0	0	0	0	24,398
*NOTE: FY95 funding for Project 0002 (MSTI) (\$15,300) from project 3616 to this 0002 project.	*NOTE: FY95 funding for Project 0002 (MSTI) includes an internal administrative reprogramming of \$13,000 from PE #603402F and Internal Reprogramming (\$15,300) from project 3616 to this 0002 project.	crnal admin	istrative rep	rogrammin	g of \$13,000	from PE #6	03402F and	Internal Reg	orogrammin	hC.
(U) A. Mission Description and Budget Item Justification (U) The Miniature Sensor Technology Integration (MST appropriated and was transferred from PE #603402F.	 A. Mission Description and Budget Item Justification (WSTI) program will provide phenomenology data for the SBIRS program. In FY95, an additional \$13,000 was appropriated and was transferred from PE #603402F. 	program wi	II provide pł	enomenolo	gy data for tl	ne SBIRS pi	ogram. In]	-Y95, an add	litional \$13,	000 was
(U) <u>FY 1995</u> - (U) \$14,780 - (U) \$4,950 - (U) \$8,570 - (U) \$8,570 - (U) \$15,300 - (U) \$15,300	Complete payload calibration and spacecraft test Perform launch integration and operations Perform on-orbit operations and program support Funds moved from BPAC 3616 to 0002 within this PE	rd spacecraft test operations program suppor to 0002 within th	test pport un this PE							
(U) <u>FY 1996</u> - (U) \$11,176 - (U) \$-2,078 - (U) \$9,098	Perform on-orbit operations and program support Funds to be moved from BPAC 3616 to 0002 within this PE Total	program su 3616 to 000)	pport 2 within this	PE						
(U) B. Program Change Summary (\$ in Thousands)	nmary (\$ in Thousands)					Ę	Total			
(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Valuea. Cong Gen Reductions	et ted Value	FY 1995 0 0	KI .	FY 1996 9,600 9,600 -302	FY 1997 0		Cost			
			Page 9 of 12 Pages	12 Pages				Exhibit R-2	-2	



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	HEET (R-2 Exhibi	t) DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development 06	PE NUMBER AND TITLE 0604441F Space Base	Space Based IR Arch (EMD) (Space)
PROJECT NO. AND NAME 0002 Miniature Sensor Technology Integration (MSTI)		
FY 1995	FY 1996 FY 1997	Total <u>Cost</u>
b. SBIR c. Internal Realignment Reprogramming 15,300	9,400	
 d. Below Infestion Reprogramming (U) Adjustments to Budget Years Since FY96 PB (U) Current Budget Submit/President's Budget * Note: \$13,000 appropriated in PE 63402F was realigned to PE 64441F and was use 	15,300 9,098 0 24,398 PE 64441F and was used for the purpose for which it was appropriated.	24,398 I was appropriated.
(U) Change Summary Explanation:		
Funding: FY95 Above Threshold Reprogramming reflects realignment of \$15,300 to this project from project 3616. In addition, \$13,000 was appropriated for MSTI in FY95 and realigned to this PE from 63402F. FY96 - \$1,700 was BTR to MSTI to support MSTI launch slip	lects realignment of \$15,300 to this project from project 3616. FY96 - \$1,700 was BTR to MSTI to support MSTI launch slip	ject 3616. In addition, \$13,000 was appropriated for Iaunch slip
Schedule: Not Applicable.		
Technical: Not Applicable.		
(U) C. Other Program Funding Summary (\$ in Thousands) Not Applicable.		
(U) D. Schedule Profile	•	
(U) Spacecraft Complete (U) MSTI Spacecraft Launch (U) On-orbit Operations	FY 1996 2 3 4 1 X X X	FY 1997 2 3 4
Page 10	Page 10 of 12 Pages	Exhibit R-2

RD	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	3RAM EL	EMENT/	PROJECT	COSTE	REAKDO	WN (R-	3)	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	g and Manu	facturing	Developmo	ent	PE NUMBE 060444	PE NUMBER AND TITLE 0604441F Space	Based IR	Arch (E	PE NUMBER AND TITLE 0604441F Space Based IR Arch (EMD) (Space)	(6	
PROJECT NO. AND NAME 0002 Miniature Sensor Technology Integration (MSTI)	AME Sensor Techn	ology Integi	ration (MSTI)								
(U) A. Project Cost Breakdown (\$000 in Thousands)	st Breakdown (\$000 in Thou	(Sands)								
				FY 1995		FY 1996	FY 1997				
 (U) MSTI Spacecraft (U) Launch (U) On-orbit Ops and Support (U) Total planned to be available (U) Adjustments for BPAC Reali, (U) Subtotal that equals Data Bas 	MSTI Spacecraft Launch On-orbit Ops and Support Total planned to be available Adjustments for BPAC Realignment Subtotal that equals Data Base amount	ument amount		14,780 4,950 8,570 28,300 -13,000		11,176 11,176 -2,078 9,098	0				
(U) B. Budget Acquisition History and Planning Information	quisition Histor	y and Planni	ng Informatio	n (\$ in Thousands)	(sp)						
Performing Organizations:	izations:										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations Spectrum Astro CPAF BPAC Adjustment n/a	nt Organizations CPAF n/a	<u>s</u> Sep 95 <i>n/a</i>	39,400	39,400	0	28,300 -13,000	11,176	0	0	39,476	
Support and Management Organizations Not Applicable.	gement Organiza	<u>ttions</u>									
Test and Evaluation Organizations Not Applicable.	1 Organizations										
								•			



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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	GRAM EI	EMENT/	PROJECT	COST BI	REAKDO	WN (R-3		DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ufacturing	Developm	ent	PE NUMBER AND TITLE 0604441F Spac	AND TITLE	Based IR	Arch (EN	PE NUMBER AND TITLE 0604441F Space Based IR Arch (EMD) (Space)	(
PROJECT NO. AND NAME 0002 Miniature Sensor Technology Integration (MST)	nology integ	ration (MSTI								
(U) B. Budget Acquisition History and Planning Information Continued (\$000 in Thousands)	ry and Planni	ng Informatic	on Continued (S	3000 in Thous	(spur					
Government Furnished Property: Not Applicable.	••									
Contractor or Government Performing Activity Subtotal Product Development Subtotal Support and Management	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995 28,300	Budget FY 1996 11,176	Budget FY 1997	Budget to Complete 0	Total <u>Program</u> 39,476	-
Subtotal Test and Evaluation Adjustments for BPAC Raalignment	ment				-13,000	-2,078			-15,078	
Total Project					15,3000	860'6			24,398	
									,	· · · · · · · · · · · · · · · · · · ·
			Pa	Page 12 of 12 Pages	ges			Exhibit R-3	7-3	

RD	RDT&E BUDGET ITEM JUST	TIFICA	TION SI	ET (R	IIFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering ar	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ent	PE NU 060	PE NUMBER AND TITLE 0604479F MIIST	ттге Ailstar LE	OR/MDR :	Sat Com	PE NUMBER AND TITLE OCOMES AT COMM (Space))	
PROJECT NO. AND NAME 5010 Milstar Sat Comm Sys	nm Sys									
	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
5010 Milstar Sat Comm Sys	S	581,242	541,869	700,278	672,577	580,005	342,265	187,973	291,900	9,699,619
(U) A. Mission Descrip Milstar is a joint service and Air Force communic	(U) A. Mission Description and Budget Item Justification Milstar is a joint service program to develop and acquire extremely high frequency (EHF) satellites, satellite mission control segment, and new or modified Army, Navy, and Air Force communication terminals for survivable, jam-resistant, world-wide, secure communications for the strategic and tactical warfighter in all levels of conflict.	ely high fre stant, world	quency (EHI -wide, secur	7) satellites, e communic	satellite mis ations for th	ssion control e strategic a	segment, and tactical v	nd new or mo varfighter in	odified Army all levels of	', Navy, conflict.
This document addresses Manufacturing Developm (1) FY 1995	This document addresses the space and mission control segments of the Milstar program. This program is in Budget Activity Research Category Engineering and Manufacturing Development, based on Defense Acquisition Board and Defense Planning Guidance direction to fabricate and launch Satellites 3M through 6. (1) FY 1995	ts of the Mil ırd and Defe	star progran nse Plannin	n. This prog g Guidance	ram is in Bu direction to	dget Activit fabricate an	y Research (d launch Sat	Category Eng cellites 3M th	gineering and trough 6.	77
(U) \$116,423	Milstar I									
Ð -	Completed Milstar I Phase I IOT&E Dedic	Dedicated A	edicated Asset Test (DAT).	AT).						
() ()	Completed Milstar I Phase I IOT&E.									-
(D) -	Implemented ECPs as needed based on operational requirement.	n operation	al requireme	nt.						
(D) -	Transitioned from MCE to Satellite Mission Control Subsystem (SMCS) Continued contractor compact for MCS coftware custainment for mission	fission Cont S software s	rol Subsyste	m (SMCS). or mission r	ission Control Subsystem (SMCS).	l catellite on	erations			
) 	Developed operator training equipment	nt.		l movemme to	min Gurumand	saconico de				
- (U) \$357,319	Milstar II									
(D)	Completed MDR payload manufacturing for Satellites 3M.	ing for Satel	lites 3M.							
G (G	Completed MDR System CDR.	101 Sur	CHILLY STATE							
(n) -	Continued bus component manufacturing for Satellite 4.	ring for Sate	Illite 4.							
(C) (E)	Continued LDR mayload manufacturing on Satellite 4.	or satenitie ng on Satell	sivi. Ite 4.							
(C) (D) -	Awarded contract to start acquisition of Satellites 5 and 6.	of Satellites	5 and 6.							
(0) -	Started LDR unit build, MDR payload	l manufactu	ring, and bu	s componen	manufacturing, and bus component manufacturing for Satellites 5 and 6.	ring for Sate	ellites 5 and	6.		
- (U) - (II) \$107.500	Started Milstar II upgrade of MCS software for mission planning. Other Government Costs	itware tor m	ussion plann	ıng.						
(U) \$581,242	Total									
			Page 1 of 7 Pages	7 Pages				Exhibit R-2	-2	





RD	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)
BUDGET ACTIVITY 5 - Engineering an	SUDGET ACTIVITY 5 - Engineering and Manufacturing Development 0604479F Milstar LDR/MDR Sat Comm (Space)
PROJECT NO. AND NAME 5010 Milstar Sat Comm Sys	m Sys
(U) <u>FY 1996</u> - (U) \$60,000	Milstar I
(D) -	Launched and performed on-orbit checkout of Satellite 2.
9 1 1	Start Milstar I Phase II IOT&E.
99	Implement ECPs as needed based on operational requirement. Develop and implement modifications to SMCS to enhance mission control operations.
(6,6)	Continue contractor support for MCS software sustainment for mission planning and satellite operations. Develop and field operator training equipment.
(U) \$431,469	Milstar II
(6)	Complete MDR payload manufacturing on Satellite 3M, and start MDR integration and test on Satellite 3M. Start MDR payload manufacturing for Satellite 4.
(C) -	Start and complete bus integration and test for Satellite 3M.
99	Continue bus component manufacturing for Satellite 4. Complete LDR integration and test on Satellite 3M, and start LDR integration and test on Satellite 4.
() () -	Complete LDR payload manufacturing on Satellite 4.
99	Continue LDR umt build, MDR payload manutacturing, and bus component manutacturing for Satellites 3 and 6. Continue Milstar II upgrade of MCS software for mission planning.
- (U) \$50,400 - (U) \$541,869	Other Government Costs Total
(U) <u>FY 1997</u> - (U) \$56,500 - (U)	Milstar I Continue to support on-orbit operations for Satellites 1 and 2. Complete Milstar I Phase II IOT&E. Implement ECPs as needed based on operational requirement. Continue to implement modifications to MCS to enhance mission control operations. Transition to organic support for MCS software sustainment for mission planning and satellite operations. Develop and field operator training equipment. Milstar II
	Page 2 of 7 Pages

RDT&E BUDGET ITEM JUST	TEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEE	T (R-2 E	xhibit)	рате Маг с	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	Development	PE NUMBER ANI 0604479F		TITLE Milstar LDR/MDR Sat Comm (Space)	nm (Space)	
PROJECT NO. AND NAME 5010 Milstar Sat Comm Sys						
 (U) Complete MDR payload manufacturing (U) Complete bus component manufacturin (U) Continue LDR integration and test on S (U) Continue LDR unit build, MDR payloa (U) Complete MDR payload integration and Start satellite integration and test on Sa (U) Storotinue Milstar II upgrade of MCS so (U) \$7000,278 (D) Start Satellite integration and test on Sa 	Complete MDR payload manufacturing on Satellite 4, and start MDR integration and test on Satellite 4. Complete bus component manufacturing on Satellite 4. Continue LDR integration and test on Satellite 4. Continue LDR unit build, MDR payload manufacturing, and bus component manufacturing for Satellites 5 and 6. Complete MDR payload integration and test on Satellite 3M. Start satellite integration and test on Satellite 3M. Continue Milstar II upgrade of MCS software for mission planning Other Government Costs	and start MI g, and bus co te 3M. ion planning	DR integration omponent ma	g on Satellite 4, and start MDR integration and test on Satellite 4. g on Satellite 4. satellite 4. d manufacturing, and bus component manufacturing for Satellites 5 it test on Satellite 3M. tellite 3M. ftware for mission planning	and 6.	
(U) B. Program Change Summary (\$\sumsymbol{s}\$ in Thousands)	ands)					
(U) Previous President's Budget(U) Appropriated Value(II) Adjustments to Appropriated Value	<u>FY</u> 60 60	FY 1995 607,248 607,248	FY 1996 649,666 577,666	FY 1997 744,990		
a. Congressional General Reductions b. SBIR c. Omnibus and Other Above Threshold Reprogram (Bosnia)		-10,238 -11,337 0	-14,225 -15,062 -6,510			
d. Below Threshold Reprogram(U) Adjustments to Budget Years Since FY96 PB(U) Current Budget Submit	. 88	-4,431 581,242	0 541,869	-44,712 700,278		
(U) Change Summary Explanation:						

Funding: Savings realized across the FYDP due to final negotiations for satellites 5 and 6 contract and acquisition reform initiatives. FY96 appropriated value represents implementation of the special termination cost clause on the Milstar contract. Eliminated factory support for test, identification, and resolution of major anomalies to on-orbit satellites.

Schedule: Satellite 2 launch delayed to 6 Nov 95 due to Titan IV vehicle processing issues. Technical: None.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ION SHEET (R-2 Exhibit)	E March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604479F Milstar LDR/MDR Sat Comm (Space)	pace)
PROJECT NO. AND NAME 5010 Milstar Sat Comm Sys		
(U) C. Other Program Funding Summary (\$ in Thousands)		To Total
(U) Not Applicable.\$0	FY 1997 FY 1998 FY 1999 FY 2000 FY 2001 Co	
(U) D. <u>Schedule Profile</u>		
(U) Milstar I (LDR Only) (U) Satellite 2 Launch (U) IOC I (U) Milstar I (LDR) OT&E, Phase II (U) Milstar I (LDR) OT&E, Phase II (U) Milstar II (LDR) OT&E, Phase II (U) Milstar II (LDR/MDR) (U) Milstar II (LDR/MDR) (U) Milstar II System CDR (U) Milstar II System CDR (U) Satellite 3M Launch - 1QFY99 (U) Satellite 5 Launch - 1QFY00 (U) Satellite 6 Launch - 1QFY01 (U) Satellite 6 Launch - 1QFY02 (U) MDR 10T&E - 2QFY00 (U) FOC - 1QFY05	1 2 3 4 1 EV 1997 * * * * * * * * * * * * *	
	Page 4 of 7 Pages	Exhibit R-2

Publicar Activity Per Number And Title O604479F Milistar LDR/MDR Sat Comm (Space)	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	JECT (SOST BREAK	DOWN (R-3)	DATE March 1996
reakdown (50 in Thousands) FY 1995 FY 1996 FY 1996 FY 1997 116,423 60,000 56,500 84,796 99,280 97,074 171,268 21,734 26,755 32,872 105,308 Costs 107,500 581,242 541,869 700,278	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development		PE NUMBER AND TITL 0604479F Mils	E star LDR/MDR Sat C	comm (Space)
A. Project Cost Breakdown (50 in Thousands) FY 1995 FY 1996 FY 1997 Satellites 1/2/3L 116,423 60,000 56,500 Satellite 3M 17,245 99,280 97,074 Satellite 4 171,268 217,346 94,202 Satellite 5 28,575 32,872 105,308 Other Government Costs 107,500 50,400 49,200 Total 581,242 541,869 700,278	PROJECT NO. AND NAME 5010 Milstar Sat Comm Sys				
Satellite 3 M	(U) A. Project Cost Breakdown (\$0 in Thousands)	FY 1995	FY 1996	FY 1997	
Satellite 5 82,071 147,994 Satellite 6 105,308 Satellite 6 107,500 82,071 147,994 Total 581,242 541,869 700,278 Page 5 of 7 Pages		116,423 84,796 171,268		56,500 97,074 244,202	
Total 581,242 541,869 700,278 Page 5 of 7 Pages		74,500 26,755 107,500	·	147,994 105,308 49,200	
		Pag	e 5 of 7 Pages		Exhibit R-3



RDI	RDT&E PROGRAM ELEMEI	RAM ELE		NT/PROJECT COST BREAKDOWN (R-3)	COST BR	EAKDO	WN (R-3)		DATE	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Develo	and Manuf	acturing D	evelopment	T T	PE NUMBER AND TITLE 0604479F Milst	AND TITLE F Milstar	D TITLE MIIStar LDR/MDR Sat Comm (Space)	Sat Com	ım (Space	(6
PROJECT NO. AND NAME 5010 Milstar Sat Comm Sys	ME Comm Sys		_							
(U) B. Budget Acquisition History and Planning Infori	uisition History	y and Planning	Information	mation (§ in Thousands)	<u>[S]</u>					
Performing Organizations:	zations:									
Contractor or Government Performing Activity	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Product Development Organizations LMSC (Milstar I) C/CPAF	tt Organizations C/CPAF	Jun 83	2,181,587*	2,181,587*	4,554,429	116,423	60,000	56,500	17,500	4,804,852
[Sats 1,2,3L] LMSC (Milstar II) [Sats 3M, 4, 5, 6]	SS/CPAF	Oct 92/ Nov 94	3,355,600	3,355,600	883,635	357,319	431,469	594,578	1,667,020	3,934,021
Support and Management Organizations	ment Organizat	ions								
Aerospace LINCOM	SS/CPFF/AF SS/CPAF	Various Various			77,286 9,069	20,150 4,930	15,334 4,693	14,682 3,743	145,337 2,824	272,789 25,259
Lincoln Lab	SS/MIPR	Various			5,885	11,900	2,704	3,030	5,730	29,249
Ogden	SS/MIPR	Various			5,505	1,550	1,510	1,704	17,709	27,978
Logicon ANSER	SS/CPFF CPFF	various Feb 91			6,264 2,378	1,333	1,109	0	0	4,649
Miscellaneous				æ	257,059	66,475	24,293	25,262	205,445	578,534
Test and Evaluation Organizations None.	Organizations				;	•	:	, ;	•	;

Note: Due to the overrun on the Milstar I contract, an Over Target Baseline (OTB) was established in Jan 91 to provide a credible cost performance baseline for the remaining contractual effort. The EAC reflects the unclassified cost of remaining work scheduled after the Jan 91 rebaseline. The total program value includes all unclassified prior funding (approx \$4B in FY82 - 92), all unclassified fees & incentives, and ECPs not yet definitized.

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RDT&E P	ROGRA	M ELE	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BR	EAKDO	WN (R-3		DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Manufact	uring D	evelopment	PE NUMBER AND TITLE 0604479F Milst	AND TITLE F Milstar	Nilstar LDR/MDR Sat Comm (Space)	Sat Con	nm (Spac	(e)	
PROJECT NO. AND NAME 5010 Milstar Sat Comm Sys	Sys									
(U) B. Budget Acquisition History and Planning Information	History and	Planning	Information Continued (Continued (\$0 in Thousands)	[3					
Government Furnished Property:	perty:									
Contract Method/Type Item or Funding Description	8.	Award or Obligation <u>Date</u>	Delivery <u>Date</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Property	Σł									
None.										
Support and Management Property None.	operty									
Test and Evaluation Property None.										
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	nt ement			5,438,064 363,446	473,742 107,500	491,469 50,400	651,078 49,200	1,684,520 390,200	8,738,873 960,746	
Total Project	Ţ.			5,801,501	581,242	541,869	700,278	2,074,720	9,699,619	
			,					: :		
			d .	Page 7 of 7 Pages				Exhibit R-3	R-3	





	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICAT	IS NOI	IEET (R	-2 Exhil	bit)		DATE M	March 1996	9
BUDGET ACTIVITY 5 - Engineerin	вирсет астіvіту 5 - Engineering and Manufacturing Developm	nent	PE NU 060	PE NUMBER AND TITLE 0604480F Glob	π∟E Slobal Po	sitioning	System	ਹ ਜπ∟∈ Global Positioning System Block IIF (Space)	(Space)	
PROJECT NO. AND NAME 0005 NAVSTAR GPS BLOCK IIF	AME GPS BLOCK IIF			·						
	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
0005 NAVSTAR GPS BLOCK IIF	S BLOCK IIF	0	18,656	37,142	74,944	65,262	62,559	61,129	Continuing	Continuing
(U) A. Mission De This program of Sustainment Pr test; satellite up Block IIF. Thi	A. Mission Description and Budget Item Justification This program element funds Research and Development for the NAVSTAR Global Positioning System (GPS) space, and control systems of the Block IIF Sustainment Program. This includes satellite design and development; control system, training simulator, and mission operation support center development and test; satellite upgrade design and development; control system, simulator and support center software upgrades; and R&D efforts to support deployment of GPS Block IIF. This PE is classified as research category/budget activity Engineering and Manufacturing Development (EMD) because it supports EMD of the GPS Block IIF satellite. Production funding for the Block IIF satellite is carried in PE 0305165.	or the NAVST levelopment; stem, simulate et activity En; is carried in	'AR Global control syst or and supp gineering at	Positioning em, training ort center so nd Manufaci	System (GF s simulator, oftware upgr turing Devel	'S) space, an and mission ades, and Rd lopment (EN	d control syoperation su operation su &D efforts to (D) because	stems of the apport center support deport it support deports it supports F	Block IIF r developmer bloyment of (BMD of the (tt and GPS GPS Block
(U) FY 1995										
Not Applicable	9									
(U) FY 1996 (U) \$14,273 (U) \$1,177 (U) \$3,090 (U) \$116 (U) \$18,656	Award Contract for Block IIF - System Sustainment - Satellite System Development - Ground System/Simulator Development - System Integration Mission Support Total	stainment								
(U) \$X (U) \$29,659 (U) \$1,183 (U) \$6,169 (U) \$131 (U) \$37,142	Continue Development of Block IIF - System Sustainment - Satellite System Development - Ground System/Simulator Development - System Integration Mission Support Total	sm Sustainme	Tt.		•					
			Page I of 4 Pages	4 Pages				Exhibit R-2	2-2	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R	-2 Exhib	it)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604480F GIOD	пте Slobal Pos	itioning System	PE NUMBER AND TITLE 0604480F Global Positioning System Block IIF (Space)
PROJECT NO. AND NAME 0005 NAVSTAR GPS BLOCK IIF				
(U) B. Program Change Summary (S in Thousands)				
(U) Appropriated Value 0	FY 1996* 19,699 19,699	FY 1997 38,901	Total <u>Cost</u> Continuing	
(c) Aujustinents to Appropriated value a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram	- 386 - 416 - 241			
 d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY96 PB (U) Current Budget Submit/President's Budget 	18,656	- 1,759 37,142	Continuing	
 (U) Change Summary Explanation: Funding: "Omnibus or Other Above Threshold Reprogramming" amount adjusted in FY96 (-241) reflects Bosnia reductions. Adjustments to Budget Years Since FY96 PB" in FY97 (-1,565) reflects Non-Pay Inflation and overhead reductions. The FY96 PB amount does not reflect funding reductions that are reserved for other DoD reprogramming needs (\$206) 	rt adjusted in FY96 ad reductions. d for other DoD re	(-241) reflect programming	is Bosnia reductions. " needs (\$206)	Adjustments to Budget Years
Schedule: No Change				
Technical: No Change				
(U) C. Other Program Funding Summary (\$\section \text{Thousands}) (U) Not Applicable.				
Related RDT&E: (U) PE 0305164F, NAVSTAR GPS (User Equipment), provides receivers to use the positioning, navigation, and timing signals from satellites. (U) PE 0101221N, Fleet Ballistic Missile System, range positioning. (U) PE 0301357F and 0305913F (formerly 0102433F), Nuclear Detonation Detection System (NDS), fund NDS payloads on the GPS satellites.	the positioning, na	vigation, and	timing signals from sa	tellites. Itellites.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 I	Exhibit) DATE	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604480F GIOB	ਹ ਸਾ⊓∈ Global Positioning System Block IIF (Space)	IIF (Space)
PROJECT NO. AND NAME 0005 NAVSTAR GPS BLOCK IIF			
(U) PE 0305119F Space Boosters, funds launch services (Delta II). (U) PE 0305130F, Consolidated Space Operations Center (CSOC), funds CSOC which hosts the operational GPS Master Control Station. (U) PE 0305165F, NAVSTAR GPS Space/Control, funds for Block IIR, CSEL, JPO support, and current ground system:	which hosts the operation IPO support, and curren	onal GPS Master Control Station. t ground system:	
(U) D. Schedule Profile			
$\frac{\text{FY 1995}}{1}$ (U) Award Block IIF System Sustainment	FY 1996 2 3 4 x	$\frac{\text{FY } 1997}{2} \qquad 4$	
Contract (U) System Design Review (U) Preliminary Design Review		×	
(U) A. Project Cost Breakdown (\$ in Thousands)			
FY 1995	5 FY 1996	FY 1997	
(U) Block IIF Development (U) Total	A 18,656 18,656	37,142 37,142	
P_{G}	Page 3 of 4 Pages	Exhib	Exhibit R-2

RC	RDT&E PROGRAM ELEMENT/P	3RAM EL	EMENT/	PROJE	CTC	OST BF	ZEAKD	ROJECT COST BREAKDOWN (R-3)	3)	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ng and Manu	Ifacturing	Developm	ent		PE NUMBER AND TITLE 0604480F GIOB	AND TITLE F Globa	l Position	ing Syste	TITLE Global Positioning System Block IIF (Space)	IF (Space)	
PROJECT NO. AND NAME 0005 NAVSTAR GPS BLOCK IIF	NAME ? GPS BLOCK I	IIF										
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	Lequisition Histor	ry and Planni	ng Informatic	n (S in Th	onsands	(8						
Performing Organizations:	nizations:											
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>		Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations Block IIF FPAF Development (TBD)	lent Organizations FPAF	<u>s</u> 3rd Qtr 96	N/A		N/A	N/A	N/A	18,656	37,142	Cont	Cont	
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	Development and Management Evaluation							18,656	37,142	Cont	Cont	
Total Project								18,656	37,142	Cont	Comt	
					Page	Page 4 of 4 Pages	ઙૢ			Exhibit R-3	7 .3	

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RDT&E BUDGET ITEM JUS	STIFICA	TION SI	HEET (R	TIFICATION SHEET (R-2 Exhibit)	bit)		DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	nent	PE NI 060	PE NUMBER AND TITLE OGO4600F Muni	PE NUMBER AND TITLE OGO 4600F Munitions Dispenser Development	Dispens	er Devel	opment		
PROJECT NO. AND NAME 1015 Wind Corrected Munitions Dispenser Kit									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
1015 Wind Corrected Munitions Dispenser Kit	26,318	50,088	56,229	18,228	7,784	0	0	0	158,647
(U) A. Mission Description and Budget Item Justification This PE develops a guidance kit for the CBU-87/B, CBU-89/B, and the CBU-97/B dispensers that provide inertial navigation to correct for the effects of wind transients and ballistic errors caused by wind when these munitions are released from medium to high altitudes. WCMD Kit fitted weapons will improve effectiveness of both bombers and fighters and significantly contribute to Air Force war fighting capabilities in two nearly simultaneous Major Regional Conflicts (MRC). WCMD Kit fitted CBU-97's dropped from bombers are key to stopping enemy armored forces in the second MRC. A full and open competition in FY 95 led to dual awards for a competitive development effort that includes a competitive fly-off and also maintains the option for competition in production. This is funded in Engineering and Manufacturing Development because this program is developing a weapon system.	rU-89/B, and nunitions are o Air Force v ping enemy octitive fly-of developing a	the CBU-9 released from the cBurbased from the carmoned for armored for the and also make a weapon system.	7/B dispens om medium capabilities ces in the se naintains the lem.	cers that pro to high altitu in two nearl cond MRC.	vide inertia ides. WCMI ly simultane A full and competition	I navigation Kit fitted ous Major R open compe in producti	to correct f weapons will tegional Constition in FY on. This is	or the effect limprove efficits (MRC) 95 led to di funded in Es	is of wind fectiveness WCMD all awards ngineering
 (U) FY 1995 (\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\	st Hardware des travel, pi GFE	Hardware Design and Fabrication s travel, program office supplies a FE	Fabrication e supplies ar	ıd equipmen	t, training, ¿	ınd technica	l engineerinչ	g support	
 (U) \$\frac{\text{FY 1996 (\\$ in Thousands)}}{\text{Continue dual EMD contracts for test hardware fabrication and aircraft integration}} (U) \$\frac{\text{S24,323}}{\text{S29}}\$ Continue dual EMD contracts for test hardware fabrication office supplies and equipment, training, and technical engineering support (U) \$\frac{\text{S1,400}}{\text{S1,400}}\$ Conduct flight/ground tests (U) \$\frac{\text{S1,536}}{\text{S1,536}}\$ Provide other government support, GFE (U) \$\frac{\text{S1,5400}}{\text{S15,400}}\$ Continue aircraft integration (U) \$\frac{\text{S15,400}}{\text{S0,088}}\$ Total 	it hardware fi des travel, pi JFE Built-In-Tes	abrication ar rogram offic rogram offic	hardware fabrication and aircraft integration es travel, program office supplies and equipm E E 3uilt-In-Test (BIT)/ Reprogramming Equipm	ntegration nd equipmen g Equipment	ıt, training, ¿ t (CMBRE)	ınd technica	ıl engineerin _t	g support	A · · · · · · · · · · · · · · · · ·
		Page 1 of 5 Pages	'5 Pages				Exhibit R-2	7-5	

RDT&E BUDGET ITEM JUSTI	FICATION	N SHEET (IFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developmen	ıt	PE NUMBER AND TITLE 0604600F Muni	PENUMBER AND TITLE OCCUPIONS DISPENSER Development	opment
PROJECT NO. AND NAME 1015 Wind Corrected Munitions Dispenser Kit				
in Thousands): 8 Continue dual EMD contracts. Buy 200	EMD Wind Co	orrected Munitio	EMD Wind Corrected Munitions Dispenser (WCMD) tail kits.	
nt support; includes ment support, GFE	ıravel, progran	n office supplies	travel, program office supplies and equipment, training, and technical engineering support	l engineering support
 (U) \$10,000 Continue aircraft integration (U) \$300 Continue development of CMBRE (U) \$56,229 Total 				
(U) B. Program Change Summary (\$\sec{8}\$ in Thousands)				
(I) Decrious Bracidant's Budget	FY 1995	FY 1996	FY 1997 58 914	
(U) Appropriated Value	23,468	53,254		
(U) Adjustments to Appropriated Value	-200	-1 044		
b. SBIR	-442	-1,321		
c. Omnibus or Other Above Threshold Reprogram	<i>L</i> -	-801		
	3,499			
(U) Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/President's Budget	26,318	50,088	-2,685 56,229	
(U) Change Summary Explanation: Funding: In FY96 above threshold reprogramming, \$547,000 was for the Bosnia bill and \$254,000 was for F-16s for Jordan. FY97 reductions are due to	000 was for the	e Bosnia bill and	. \$254,000 was for F-16s for Jordan. F	Y97 reductions are due to

inflation adjustment.

Schedule: No changes.

Technical: No changes.

Page 2 of 5 Pages





RDT&E BUDGET ITEM JUS		TIFICATION SHEET (R-2 Exhibit)	2 Exhibit)		рате Ма	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Development	PE NUMBER AND TITLE 0604600F Muni	TITLE Munitions Dispenser Development	ser Develo	pment	
PROJECT NO. AND NAME 1015 Wind Corrected Munitions Dispenser Kit	r Kit					
(U) C. Other Program Funding Summary (\$ in Thousands)	1 Thousands)				T _o	Total
(U) WCMD Kit Production, Missile Proc, AF	FY 1996	FY 19	王 (0 FY 2001 37 76,466	Compl 1,274,429	Cost 1,468,146
(U) SEEK EAGLE, Missile Proc, AF (U) TOTAL	0 0	0 909 0 16,826	2,814 1,730 27,161 78,717	30 0 17 76,466	0 1,274,429	5,453 1,473,599
(U) D. Schedule Profile						
	FY 1995 2 3 4	FY 1996 1 2 3	4 1 2	$\frac{\text{FY } 1997}{2} \qquad 4$		÷
(U) Engineering Milestones Design Reviews Pilot Production	×	×	×			
(U) T&E Milestones Aircraft Cert Tests Devel Testing Competitive Fly-Off	×	×	*			
(U) Contract Milestones EMD Contract Award Downselect	×		×			
(U) Other Program Events DT/OT FY 98/1 LRIP FY 98/2 (B-52) RAA FY 99/4 (F-16) Milestone III FY 99/4 FRP FY 00/1						
		Page 3 of 5 Pages			Exhibit R-2	

RC	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	3RAM EL	EMENT/P	ROJECT	COSTB	REAKD(JWN (R-	3)	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ng and Manu	ifacturing [Jevelopme	int	PE NUMBER AN 0604600F		ons Disp	enser Dev	TITLE Munitions Dispenser Development		
PROJECT NO. AND NAME 1015 Wind Corrected Munitions Dispenser Kit	NAME rected Munitio	ns Dispenseı	r Kit								
(U) A. Project Cost Breakdown (\$ in Thousands)	ost Breakdown ((\$ in Thousand	<u>[8]</u>	FY 1995		FY 1996	FY 1997				
 (U) Major Contracts (U) Support Contracts (U) Program Office Support (U) Test And Evaluation (U) Aircraft integration (U) Government Furnished I (U) CMBRE (U) Total 	Major Contracts Support Contracts Program Office Support Test And Evaluation Aircrafr integration Government Furnished Equipment (GFE) Total	nent (GFE)		16,446 1,809 1,002 500 3,655 2,906	~ - 7	24,323 1,613 2,216 1,400 15,400 1,536 3,600 50,088	31,608 2,875 3,846 3,600 10,000 4,000 56,229				
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	equisition Histor	ry and Plannin	g Information	ı (\$ in Thousan	(sp						_
Performing Organizations:	nizations:										
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations WCMD C/CPAF Development Contractors	ent Organizations C/CPAF	<u>s</u> Jan 95		82,431	0	16,446	24,323	31,608	10,054	82,431	,,,,,,
Support and Management Organizations	gement Organiza	tions									
Sverdrup	C/CPAF	Oct 95		6,091	0	1,090	1,001	1,600	2,400	6,091	
TAMS	C/CPAF	Oct 95		2,064	0	375	339	200	850	2,064	
SAIC	C/CPAF	Oct 95 ,		1,517	0	344	273	300	009	1,517	
ASC/YH	n/a	n/a		8,885	0	1,002	2,216	4,321	1,346		
				Pa	Page 4 of 5 Pages	ses			Exhibit R-3	R-3	





RDT&E PROGRAM ELEMENT/	GRAM EL	EMENT/P	PROJECT	COST BREAKDOWN (R-3)	REAKDO	WN (R-3	()	DATE	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ufacturing	Developme	nt	PE NUMBER AND TITLE 0604600F Muni	AND TITLE F Munition	PENUMBER AND TITLE OCCUPATIONS DISPENSER Development	nser Dev	elopment	
PROJECT NO. AND NAME 1015 Wind Corrected Munitions Dispenser Kit	ons Dispense	r Kit							
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Test and Evaluation Organizations 46 OG/OGML Acft Integration	rol		12,462 29,055	0 0	500 3,655	1,400	3,600 10,000	6,962	12,462 29,055
Government Furnished Property:	*								
Product Development Property SFW/CEM/SE FPI CMBRE CPAF	Apr 96 Feb 96	Jan 97		0 0	2,906	1,536	4,000	3,800	12,242 3,900
Support and Management Property: None	y: None								
Test and Evaluation Property: None	ne								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation TOTAL				0000	19,352 2,811 4,155 26,318	29,459 3,829 16,800 50,088	35,908 6,721 13,600 56,229	13,854 5,196 6,962 26,012	98,573 18,557 41,517 158,647
			7	Page 5 of 5 Pages	sə			Exhibit R-3	7-3

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION SI	HEET (R	-2 Exhil	oit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	nent	PE NI 060	PE NUMBER AND TITLE 0604602F Arma	F NUMBER AND TITLE 0604602F Armament Ordnance Development	t Ordnan	ce Devel	opment		
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	18,100	7,597	3,642	1,609	137	142	140	Continuing	TBD
2784 Armament Standard/Control/ Munitions Material Handling Equipment	1725	0	0	0	0	0	0	0	N/A
3133 Bombs & Fuzes	16,172	7,460	3,509	1,472	0	0	0	0	36,540
5613 Container Design Retrieval System	203	137	133	137	137	142	140	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

MMHE and containers. (Funding for Project 2784 for FY96 and beyond was transferred to PE 27590F, SEEK EAGLE.) The Bombs and Fuzes Project 3133 satisfies fuze, dated 11 Apr 80; SAC message 041901Z Feb 87, M117 High Drag Capability(s); Joint Mission Need Statement (MNS) TAF 401-91 for Adverse Weather Strike Capability, dated 4 Nov 91; and CAF MNS 314-90 for the Advanced Fuze Family, dated 13 May 93. This project funds development of a specific fuze type for air-to-TAF ROC 323-75, Proximity Fuzes, dated 2 Sep 75; TAF SON 305-85, Hardened Target Munitions, dated 14 Oct 86; OSD letter requirement for a common bomb Project 5613, satisfy several USAF and tri-service requirements for standardization of armament and support equipment and eliminate unnecessary duplication of development phase of several munitions related items and functions. This program is funded in budget activity 5 - Engineering and Manufacturing Development The Armament Standardization/Control/Munitions Material Handling Equipment (MMHE), Project 2784, and the Container Design Retrieval System (CDRS), ground munitions. The RDT&E Research Category/Budget Activity is Engineering and Manufacturing Development because the projects support the EMD because the projects support the EMD development phase of several munitions related items and functions.

Page 1 of 15 Pages







RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R.	2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604602F Arma	O TITLE Armament Ordnance Development	opment
(U) B. Program Change Summary (\$ in Thousands)			
(U) Previous President's Budget 18,294 (U) Appropriated Value 18,294	FY 1996 8,075	<u>FY 1997</u> 3,796	
Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR	-159 -152 -167		
	7,597	-154 3,642	
 (U) Change Summary Explanation: Funding: FY95 Below Threshold Reprogramming reduction was for computer support, classified reprogramming, and Hurricane Erin support. FY96 reductions were for SBIR, general Congressional Reductions, support for Bosnia operations, and reprogramming for F-16s to Jordan. FY97 reduction due to inflation adjustment. Schedule: N/A Technical: N/A 	for computer suppo ctions, support for B	rt, classified reprogramming, and H osnia operations, and reprogrammi	urricane Erin support. FY96 ng for F-16s to Jordan. FY97
(U) C. Other Program Funding Summary (\$ in Thousands)			. CE
Appropriation Missile Procurement, AF: Budget Activity 6, Munitions and Related Equipment; PE: 0208030F Program Title: Joint Programmable Fuze WSC 276170	FY 1997 FY 1998 4,125 5,940 slated Equipment;	FY 1999 FY 2000 FY 2001 8,140 8,340 8,528	27
Pag	Page 2 of 15 Pages		Exhibit R-2

RDT&E BI	RDT&E BUDGET ITEM JUST	STIFICA	TION S	HEET (R	IIFICATION SHEET (R-2 Exhibit)	oit)		рате М	March 1996	6
BUDGET ACTIVITY			PE N	PE NUMBER AND TITLE	IITLE					
5 - Engineering and Manufacturing Developme	facturing Developm	ent)90	14602F A	0604602F Armament Ordnance Development	Ordnan	ce Devel	opment		
PROJECT NO. AND NAME 2784 Armament Standard/Control/		Munitions Material Handling Equipment	ial Handlir	ng Equipm	ent					
		EV 100E	EV 1006	EV 4007	EV 1008	TV 4000	EV 2000	EV 2004	4 +20	Total Coet
COST (\$ In Thousands)	housands)	Actual	Estimate	Estimate	Estimate	Estimate	F r zooo Estimate	FT 2001 Estimate	Complete	rotal Cost
2784 Armament Standard/Control/ Handling Equipment	Munitions Material	1725	0	0	0	0	0	0	0	N/A

(U) A. Mission Description and Budget Item Justification

commonality of improved munitions handling and armament equipment to preclude duplication and proliferation. This project's efforts are limited to the study, design, and development of MMHE and armament control systems. Any procurement will be performed and funded by the applicable weapons system project. (Funding for Project 2784 for FY96 and beyond was transferred to PE 27590F, SEEK EAGLE.) Armament Standardization/Control/Munitions Material Handling Equipment (MMHE): This continuing project develops and improves the standardization and

(U) FY 1995 (\$ in Thousands):

- Initiate/continue/complete design/development of various MMHE projects, including completing design of B1-B Preload Adapter, F-22 Pylon Adapter, and testing of Navy LALS, B-1 Ram Assembly, and B-1 T-bar Adapter, and conduct MHU-110 Upgrade Evaluation. (U) \$ 1,130
 - Complete conceptual design robotics Advanced Technological Demonstrator.
- Complete evaluation of universal armament test capability.
- Complete design B-1/B-52/B-2 Rotary Launcher Load Adapter and B-52H Pylon Load Adapter.
 - \$(2)
- (U) FY 1996 (\$ in Thousands):
 (U) Not applicable. Project moved to PE 020750, SEEK EAGLE
- (U) FY 1997 (\$\frac{1}{2}\$ in Thousands):
 (U) Not applicable. Project moved to PE 020750, SEEK EAGLE

Page 3 of 15 Pages





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHEET (R-	2 Exhibit)	DATE	е March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604602F Arms	ЭТІТЕ Armament Ordnance Development	nce Developi	nent	
PROJECT NO. AND NAME 2784 Armament Standard/Control/		nt			
(U) B. Program Change Summary (\$ in Thousands)	. •		,		
resident's Budget icd Value its to Appropriated Value ien Reductions	FY 1996 0	T FY 1997 0	Total <u>Cost</u> N/A		-
 b. SBIR* c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/President's Budget 	0 0	0 0	0 N/A		
(U) Change Summary Explanation: Funding: Project funding and responsibility for FY96 and beyond was transferred to PE 27590, SEEK EAGLE. Schedule: Not applicable Technical: Not applicable	was transferred to PE 275	90, SEEK EAGLE.			
(U) C. Other Program Funding Summary (\$ in Thousands): Not Applicable Related Activities: There is no other unnecessary duplication of effort within the	S): Not Applicable of effort within the Air Force or Department of Defense.	ment of Defense.		<u>-</u>	<u></u>
	Page 4 of 15 Pages		ш	Exhibit R-2	

RDT&E PROGRAM ELEMENT/P	MENT/PROJECT	ROJECT COST BREAKDOWN (R-3)	DOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	relopment	PE NUMBER AND TITLE 0604602F Arma	TITLE Armament Ordnance Development	/elopment
PROJECT NO. AND NAME 2784 Armament Standard/Control/	Munitions Material	Munitions Material Handling Equipment		
(U) A. Project Cost Breakdown (\$ in Thousands)				
	FY 1995	95 FY 1996	FY 1997	
(U) LALS II Ammo Loader		150 0	0 0	
(U) Contractor support	4 N		0	
(U) Launcher/Pylon Adapter	1		0	
(U) Launcher/Pylon Adapter	\$		0	
(U) Testing	20	20 0 24 0	o c	····
(C) Circl (U) Total	1.7		0	
·				
	ď	Page 5 of 15 Pages		Exhibit R-3
	,	450 5 51 45 4 555E		



RDT&E PROGRAM ELEMENT/	GRAM EL	EMENT/P	PROJECT COST BREAKDOWN (R-3)	COSTB	REAKD	OWN (R-	3)	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	ufacturing	Developme	ent	PE NUMBER ANI 0604602F		nent Ordr	nance Dev	אוחדוכ Armament Ordnance Development		
PROJECT NO. AND NAME 2784 Armament Standard/Control/	introl/	Munitic	Munitions Material Handling Equipment	Handling Ec	quipment					
(U) B. Budget Acquisition History and Planning Information (S in Thousands)	ry and Plannir	<u>ig Information</u>	(\$ in Thousa	(spu						
Performing Organizations:										
Contractor or Contract Government Method/Type	Award or	Performing	Project	Total						
Performing or Funding Activity Vehicle		Activity EAC	Office EAC	Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations Naval Air PO	<u>ns</u> Sep 93	830	1,040	730	310	0	0	0	N/A	
Warfare Center Dept. of Energy/ PO NASA	Mar 94	502	502	267	235	0	0	0	N/A	
Support and Management Organizations TEAS/TEAMS CP Oct	ations Oct 93	728	728	330	398	0	0	0	N/A	
\LZ	Oct 93	452	452	230	222	0	0 (0	N/A	
Other	Oct 93	894	894	604	540	>	0	0	N/A	
Test and Evaluation Organizations 46th Test Wing PO	Con't	30	30	10	20	Ò	0	0	N/A	
Government Furnished Property: Not Applicable	: Not Applicat	ole								, ,
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation				997 1,164 10	000	0 0 0	000	N'A N'A N'A		
Total Project				2,171	0	0	0	N/A		
			·					:: ::: :::	ç	
			Pt.	Page 6 of 13 Pages	iges			EXIIIDIL K-3	4-5	
				000						

March 1996 0604602F Armament Ordnance Development DATE RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 5 - Engineering and Manufacturing Development 3133 Bombs & Fuzes PROJECT NO. AND NAME BUDGET ACTIVITY

(U) A. Mission Description and Budget Item Justification

Bombs and Fuzes: This project develops and improves conventional bombs and fuzes including the development of the Joint Programmable Fuze (JPF) and a unitary warhead for the Joint Direct Attack Munition (JDAM) program.

36,540

0

O

0

1,472

3,509

7,460

16,172

Total Cost

Cost to Complete

FY 2001 Estimate

FY 2000 Estimate

FY 1999 Estimate

FY 1998 Estimate

FY 1997 Estimate

FY 1996 Estimate

FY 1995 Actual

COST (\$ In Thousands)

3133 Bombs & Fuzes

FY 1995 (\$ in Thousands): 9

- Continue the JPF development effort, including completion of detail design and CT&E. (U) \$ 8,072
 - Begin JPF Developmental Test and Evaluation (DT&E). 100 \$ (<u>n</u>)
- Conduct Conventional Air-Launched Cruise Missile demonstration of Anti-Armor Variant. (U) \$ 8,000
 - Total (U) \$ 16,172

FY 1996 (\$ in Thousands): 9

- (U) \$ 3,.610 Complete JPF DT&E,
- Fabricate JPF Initial Operational Test and Evaluation (IOT&E) (U) \$ 3,432
 - Begin JPF IOT&E. 418 \$ (D)
- Total (U) \$ 7,460

FY 1997 (\$ in Thousands): 3

- Complete JPF IOT&E. (C)
- Complete JPF Functional Configuration Audit. Production Readiness Review, and Physical Configuration Audit. 200 \$(0)
 - Start JPF/JDAM Integration Flight Test. 3,209 **\$**(E)
 - Total 3,509 \$ (D)

Page 7 of 15 Pages





BOTRE BLIDGET ITEM ILISTIFICATION SHEET (R-2 Exhibit)	N SHFFT (R.	2 Exhibit)		DATE March 1006	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604602F Arms	TLE	PENUMBER AND TITLE 0604602F Armament Ordnance Development	opment	
(U) B. Program Change Summary (S in Thousands)					
(U) Previous President's Budget (U) Appropriated Value	FY 1996 7,935 7,935	FY 1997 3,657	Total <u>Cost</u> 38,078		
Adjustments to Appropriated value a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming Adjustments to Budget Years Since FY 1994 PB	-156 -152 -167	-148			1445
omuVrresident's Budget Explanation: Congressional add of \$8 Million for nsion kit for TMDs. Reductions were figressional Reductions, support for Bost	7,400 Anti-Armor variant ral Congressional an	of Conventional AF reductions.	Air-Launched Cr. FY96 reductions	demonstration of Anti-Armor variant of Conventional Air-Launched Cruise Missile (CALCM) and range or SBIR and general Congressional and AF reductions. FY96 reductions were for SBIR, general nia operations, and reprogramming for F-16s to Jordan. FY97 reduction due to inflation adjustment.	ge
Schedule: N/A Technical: N/A U) C. Other Program Funding Summary (\$ in Thousands)	oted Kaninment				
Appropriation: Missue Frocureniem, Ar. Buuger Activity 9, Municions and Notacu Equipment PE: 0208030F Program Title: Joint Programmable Fuze WSC 276170	atou Eduipinoni			To Total	
(U) FY 1995 FY 1996 FY (U)	FY 1997 FY 1998 4,125 5,940	FY 1999 8,140	FY 2000 FY 2001 8,340 8,528	<u>Compl</u> <u>Cost</u> 236,869 271,942	
Related Activities: PE 0604618F and PE 0604618N, Joint Direct Attack Munition					
Pa	Page 8 of 15 Pages			Exhibit R-2	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-2 Exhibit) DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604602F Armament Ordnance Development
PROJECT NO. AND NAME 3133 Bombs & Fuzes	
There is no unnecessary duplication of effort within the Air Force or Department of Defense.	epartment of Defense.
(U) D. Schedule Profile Joint Programmable Fuze (JPF) FY 1995 (U) Critical Design Review (CDR) (U) Start DT&E (U) Production Readiness Review (PRR) #1 (U) Final Delivery LRIP I (U) Start IOT&E (U) Complete DT&E (U) Complete DT&E (U) Complete IOT&E (U) Start IPF/JDAM Integration Flight Test	1 2 3 4 1 2 3 4 X
A .	Page 9 of 15 Pages.





Cad/TINDING ID MACCOCC TOTAC		ST DDEAK	(5 G) N/V(OC	DATE
KDI & E PROGRAM ELEMEN I/PROJECI COSI BREANDOWN (N-3)		SI BREAN	JOVVIN (R-3)	March 1996
вирсет астічіту 5 - Engineering and Manufacturing Development	90 90	PE NUMBER AND TITLE 0604602F Arma	PE NUMBER AND TITLE 0604602F Armament Ordnance Development	evelopment
PROJECT NO. AND NAME 3133 Bombs & Fuzes				
(U) A. Project Cost Breakdown (\$ in Thousands)	FY 1995	FY 1996	FY 1997	
(U) a. Contractor	4,350	5,515	1,392	
(U) b. Government Testing	3.015	951	500	
Contractor support	493	293	500	
Management support	314 0	480 265	567	
Government Total	3,822	2,029	2,117	
(U) c. CALCM Anti-Armor Demonstration	8,000	0	0	
(U) Total	16,172	7,460	3,509	
	Page 10	Page 10 of 15 Pages		Exhibit R-3

RDT&E PROGRAM ELEMENT/P	GRAM EL	EMENT/P	ROJECT COST BREAKDOWN (R-3)	COSTB	REAKD(JWN (R-:	3)	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	ıfacturing L)evelopme	nt	PE NUMBER ANI 0604602F	PE NUMBER AND TITLE 0604602F Armar	o Ti⊤LE Armament Ordnance Development	ance Dev	elopment		
PROJECT NO. AND NAME 3133 Bombs & Fuzes										
(U) B. Budget Acquisition History and Planning Information	ry and Plannin	g Information	(\$ in Thousands)	(spu						
Performing Organizations:										
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations Motorola	<u>18</u> Jul 93	16,362	16,800	6,019	4,350	5,515	1,392	277	17,553	
Support and Management Organizations TEAS/TEAMS Oct ASC/YHP Other	ations Oct 92	2,205 2,503 1,449	2,205 2,503 1,449	369 919 172	493	243 486 265	500 550 567	600 150 445	2,205 2,419 1,449	
Test and Evaluation Organizations 46th Test Wing CALCM Anti- Armor Demo	Mar 94 TBD	4,914 8,000	4,914 8,000	448	3,015	951	200		4,914 8,000	
Government Furnished Property: Not Applicable	: Not Applicab	el e			٠					
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation				6,019 1,460 448	5,515 1,078 951	1,392 1,617 500	271 1,195 0	17,553 6,157 12,914		
Total Project				7,927	7,460	3,509	1,472	36,540		
								: :		
			Pa	Page 11 of 15 Pages	ages			Exhibit R-3	R-3	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICAL	IS NOI	HEET (R	-2 Exhil	oit)		DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	lent	PE NU 060	PE NUMBER AND TITLE 0604602F Armament Ordnance Development	ITLE Irmamen	t Ordnan	ce Devel	opment		:
PROJECT NO. AND NAME 5613 Container Design Retrieval System									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
5613 Container Design Retrieval System	203	137	133	137	137	142	140	Continuing	TBD
(U) A. Mission Description and Budget Item Justification									
Containers. This project funds the operation of the tri-service Container Design Retrieval System (CDRS). This system includes the maintenance of a container database to preclude proliferation and duplication of munitions containers. It also supports organic container design, prototyping, and testing capabilities. This project's efforts are limited to the study, design, and development of container systems. Any procurement will be performed and funded by the applicable weapons system project.	container Des s. It also sup ms. Any pro	ign Retrieva ports organ curement w	ontainer Design Retrieval System (CDRS). This system includes the maintenance of a container database. It also supports organic container design, prototyping, and testing capabilities. This project's efforts are us. Any procurement will be performed and funded by the applicable weapons system project.	DRS). This design, prot ned and fun	system inchotyping, and	udes the ma testing cap oplicable we	intenance of abilities. Th apons syster	a container iis project's e n project.	database fforts are
 (U) £Y 1995 (\$ in Thousands): (U) \$43 Initiate/continue/complete design/development of various CDRS projects including containers for the AGM-142 components, the Multi-Spectral Aircraft Decoy, the AMRAAM BIT modification, Special Projects, and the JSOW (AF). (U) \$30 Provide container design expertise, management, and technical support to ongoing programs under contract development or production such as JDAM, JSOW (Navy), AGM-130, DSU-33 A/B, Joint Programmable Fuze, and MILSTAR. (U) \$130 Manage and operate the CDRS and data base, (U) \$203 Total 	velopment of AM BIT mod nanagement, SU-33 A/B, J lata base,	various CD ification, Sp and technic oint Progra	RS projects i becial Project al support to mmable Fuz	including co is, and the Ji ongoing pr e, and MILS	ntainers for SOW (AF). ograms unde iTAR.	the AGM-1.	42 compone: evelopment	nts, the Mull or productio	i- n such as
 (U) FY 1996 (\$ in Thousands): (U) \$5 Initiate/continue/complete design/development of various CDRS projects, including containers and fixtures for AGM-142 components, Multi-Spectral Aircraft Decoy, Mobile Aircraft Arresting System, and Special Projects. (U) \$5 Provide container design expertise, management, and technical support to programs, such as AIM-9X, AMRAAM, JASSM, AGM-142, JDAM, AGM-130, DSU-33 A/B, Wind Corrected Munitions Dispenser (WCMD), JPF, and MILSTAR. (U) \$127 Manage and operate the CDRS data base and support service. (U) \$137 Total 	velopment of raft Arrestin, nanagement, nd Corrected base and supi	various CD g System, an and technic Munitions oort service.	RS projects, nd Special P al support to Dispenser (\	including or rojects. programs, 8 WCMD), JPI	ontainers an such as AIM F, and MIL.S	d fixtures fo -9X, AMR/ TAR.	r AGM-142 AAM, JASSN	components M, AGM-14	, Multi- 2,
		Page 12 of 15 Pages	'15 Pages				Exhibit R-2	2- 2	

RDT&E BUDGET ITEM JUSTIFICAT	TIFICATION SHEET (R-2 Exhibit)	R-2 Exhib	it)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604602F Arma	Armament	PE NUMBER AND TITLE 0604602F Armament Ordnance Development	opment
PROJECT NO. AND NAME 5613 Container Design Retrieval System				
 (U) FY 1997 (\$\frac{\psi}{\psi}\$ in Thousands): (U) \$\frac{\psi}{\psi}\$ Initiate/continue/complete design/development of various CDRS projects, including a modular mobility container system, and special projects. (U) \$\frac{\psi}{\psi}\$ Provide container design expertise, management, and technical support to programs such as AIM-9X, JASSM, AMRAAM, AGM-142, JDAM, AGM-130, and WCMD. (U) \$124 Manage and operate the CDRS data base and support service. (U) \$133 Total 	arious CDRS project nd technical support rt service.	s, including a m to programs suc	odular mobility contai th as AIM-9X, JASSM	ner system, and special projects. I, AMRAAM, AGM-142, JDAM,
(U) B. Program Change Summary (\$ in Thousands)	FV 1006	FV 1007	Total Cont	
(U) Previous President's Budget 203 (U) Appropriated Value 203	140 140 140	139	1,998	
a. Cong Gen Reductions b. SBIR	ę.			
c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1994 PB (U) Current Budget Submit/President's Budget	137	-6 133	1,828	
 (U) Change Summary Explanation: Funding: Funding: FY96 changes results from general Congressionalreductions. FY97 changes result frominflation reductions. Schedule: Not Applicable Technical: Not Applicable 	alreductions. FY97	changes result f	rominflation reductior	Si

(U) D. Schedule Profile: Not Applicable

Related Activities: There is no other unnecessary duplication of effort within the Air Force or Department of Defense.

(U) C. Other Program Funding Summary (\$ in Thousands): Not Applicable

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RD	RDT&E PROGRAM ELEMENT	3RAM EL		PROJECT COST BREAKDOWN (R-3)	COST B	REAKDO	WN (R-	<u></u>	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	ig and Manu	Ifacturing	Developme	ient	PE NUMBER AND TITLE 0604602F Arma	RAND TITLE	ਹ ਜਾ⊤∟E Armament Ordnance Development	ance Dev	elopment		
PROJECT NO. AND NAME 5613 Container Design Retrieval System	JAME Design Retrie	val System									
(U) A. Project Cost Breakdown (\$ in Thousands)	ost Breakdown (S in Thousan	(Sp								
				FY 1995		FY 1996	FY 1997				
 (U) Travel/Transportation (U) Supplies/Equipment (U) Contractor Support (U) Mission Support (U) Test Support (U) Total 	ortation pment pport ort			50 50 60 60 43 73 73 70	50 50 60 43 0 03	40 40 37 20 0	40 40 35 18 0				
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	cquisition Histor	ry and Planni	ng Information	ı (\$ in Thousaı	(spu						
Performing Organizations:	nizations:										
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to <u>FY 1995</u>	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations N/A	ent Organization	ଥା				5.					
Support and Management Organizations Sverdrup (TEAS) ASC/YHS Other	gement Organizz	oct 93	TBD TBD TBD	TBD CBT CBT	1,455 533 283	35 168	23	24	Continuing Continuing	1,455 TBD TBD	
Test and Evaluation Organizations 46th Test Wing	n Organizations		TBD	TBD	190	0	0	0	Continuing	TBD	
				Pay	Page 14 of 15 Pages	səğı			Exhibit R-3	2-3	
		,			200						

RDT&E	RDT&E PROGRAM ELEMENT/P	EMENT/PROJECT	ROJECT COST BREAKDOWN (R-3)	EAKDO	WN (R-3		DATE	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developmer	d Manufacturing [)evelopment	PE NUMBER AND TITLE 0604602F Arma	IND TITLE - Armam	ent Ordn	TITLE Armament Ordnance Development	elopment	
PROJECT NO. AND NAME 5613 Container Design Retrieval System	n Retrieval System							
(U) B. Budget Acquisition History and Planning Information	on History and Plannin	g Information Continued (\$	Continued (\$ in Thousands)					
Government Furnished Property: Not Applicable	roperty: Not Applicabl	υ						
Contract Method/ Item or Fundii	Contract Method/Type Award or or Funding Obligation Vehicle Date	Delivery <u>Date</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Subtotal Product Development N/A Subtotal Support and Management Subtotal Test and Evaluation	nent N/A agement on		2,271 190	203	137	133 C	Continuing Continuing	TBD
Total Project			2,461	203	137	133	Continuing	TBD
		Pag	Page 15 of 15 Pages	SS			Exhibit R-3	5.3

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	IS NOIL	HEET (R	-2 Exhil	oit)		DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	nent	PE NUMBE 06046((SFW)	PE NUMBER AND TITLE 0604604F/0207; (SFW)	ПТLE 2 07320F	Submun	itions/Se	ensor Fuz	PE NUMBER AND TITLE 0604604F/0207320F Submunitions/Sensor Fuzed Weapon (SFW)	nou
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	4,963	14,350	4,873	4,997	4,948	5,054	5,101	Contuining	ТВD
3166 Joint Smart Munition Test and Evaluation Program	3,499	4,754	4,873	4,997	4,948	5,054	5,101	Continuing	ТВD
1016 Sensor Fuzed Weapon Production Support	1,464	9,596	0	0	0	0	0	ТВD	ТВD
(U) A. <u>Mission Description and Budget Item Justification</u> This program contains two unrelated projects. We plan to move project 1016 to the Sensor Fuzed Weapon (SFW) program element (PE 0207320) because it is for SFW pre-planned product improvement (P31). Project 3166 is a joint US Air Force/US Army program which evaluates developmental smart munitions and related emerging technology with applications against mobile ground vehicle targets and Theater Air Defense units by determining performance against actual foreign targets in realistic environments and in the presence of countermeasures.	move project 56 is a joint U und vehicle ti untermeasure	1016 to the S Air Force urgets and 7 s.	s Sensor Fuz JUS Army p Fheater Air 1	ed Weapon (rogram whic	(SFW) programes s by determinates	ram element developmen ning perfori	(PE 020732) Ital smart m nance again	20) because in unitions and sat actual fore	t is for related ign
(U) Acquisition Strategy The acquisition strategy is competitive. Cost plus or firm f	fixed price contracts.	ntracts.							
(U) B. Program Change Summary (S in Thousands)									
	FY 1995 4,896 4,896		FY 1996 4,953 14,953	<u>FY 1997</u> 5,105					
(U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR			-293						
c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming	+67		-310	-032					
	4,963		14,350	4,873					
		Page 1 of 11 Pages	11 Pages				Exhibit R-2	2-2	
		000							

0604604F/0207320F Submunitions/Sensor Fuzed Weapon RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE **BUDGET ACTIVITY**

March 1996 DATE

5 - Engineering and Manufacturing Development

(SFW)

(U) Change Summary Explanation:

Funding: In FY95, we added \$67,000 to the joint test and evaluation project (project 3166) to fund a shortfall. In FY96 above threshold reprogramming, \$154,000 is for Bosnia and \$156,000 is for F-16s for Jordan. In FY97, the reduction is due to the inflation adjustment.

Schedule: No change

Technical: No change

(U) C. Other Program Funding Summary (S in Thousands)

- (U) See Individual projects.
- (U) D. Schedule Profile
- (U) See Individual projects.

Exhibit R-2

Page 2 of 11 Pages





0604604F/0207320F Submunitions/Sensor Fuzed Weapon **March 1996** DATE RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE (SFW) 5 - Engineering and Manufacturing Development **BUDGET ACTIVITY**

COST (\$ In Thousands)		FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3166 Joint Smart Munition Test and Evaluation Program	3,499	4,754	4,873	4,997	4,948	5,054	5,101	Continuing	TBD	ТВD

(U) A. Mission Description and Budget Item Justification

munitions test and evaluation (T&E) activities including T&E support for programs in engineering and manufacturing development. This project is funded in BA 5 mobile ground vehicle targets and Theater Air Defense units by determining performance against actual foreign targets in realistic environments and in the presence point for joint Air Force and Army target signature collection and dissemination for development and exploitation purposes. This PE provides support for smart Project 3166 is a joint US Air Force/US Army program which evaluates developmental smart munitions and related emerging technology with applications against of countermeasures. Data gathered is used to meet developmental decision points requiring highly reliable, realistic performance data. The project is a major focal because it is a continuing RDT&E activity supporting mostly acquisition programs in Engineering and Manufacturing Development.

(U) FY 1995 (\$ in Thousands):

(U) \$300 Developed smart weapons models and simulations for digitized battlefields

Continued test support of smart munitions test community, for weapon effectiveness and target signature \$650

(U) \$500 Conducted advanced warhead effectiveness tests and analysis

- (U) \$300 Maintained detailed signature and warhead/vulnerability databases

– (U) \$3,499 Tot

(U) FY 1996 (\$ in Thousands):

(U) \$1100 Start Phase IV of the weapon effectiveness evaluation.

Develop models and simulation tools to support electronic engagement simulations \$300 9

Continue maintenance and expansion of vulnerability/lethality and signature databases \$600 9

Plan and conduct Captive Flight Tests for signature collection and seeker/sensor evaluations and algorithm development \$1148 9

Conduct advanced warhead effectiveness evaluation, and Continue vulnerability analysis of SEAD and TMD targets \$8383 3

(U) \$4,754 Total

Page 3 of 11 Pages

Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SATION SHE	ET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development PROJECT NO. AND NAME	PE NUMBI 06046 (SFW)	PE NUMBER AND TITLE 0604604F/0207320F Submunitions/Sensor Fuzed Weapon (SFW)	ensor Fuzed Weapon
3166 Joint Smart Munition Test and Evaluation Program			
in Thousands): Continue Phase IV of the weapon effe Develop models and simulation tools I Continue maintenance and expansion	ss evaluation ort electronic engag erability/lethality a	ectiveness evaluation to support electronic engagement simulations of vulnerability/lethality and signature databases	
\$1200 Plan and conduct Captive Flight Tests \$700 Conduct advanced warhead effectiven \$773 Continue vulnerability analysis of Ene \$4,873 Total	gnature collection fr tuation Defense (SEAD),	and signature collection for seeker/sensor evaluations and algorithm development ess evaluation amy Air Defense (SEAD), and Theater Missile Defense (TMD) targets	evelopment
(U) B. Program Change Summary (\$\section \text{in Thousands}) FY	FY 1995 FY 1996	96 FV 1997	
(U) Previous President's Budget (U) Appropriated Value			
ropriated Value tions		-97	
c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming	-1	-102	
(U) Adjustments to budget rears since Fr 1990 FB (U) Current Budget Submit/President's Budget	3,499 4,754	-232 54 4,873	
 (U) Change Summary Explanation: Funding: In FY96 above threshold reprogramming, \$51,000 is Schedule: No change. Technical: No change. 	for Bosnia, and \$5	1,000 is for Bosnia, and \$51,000 is for F-16s for Jordan.	

(U) D. Schedule Profile: Not applicable as this is a continuing test effort (target/warhead evaluation/analysis, signature tests, captive flight tests, are ongoning throughout the year and continue through the FYDP).

(U) C. Other Program Funding Summary (\$ in Thousands): None

Exhibit R-2



Page 4 of 11 Pages



RDT&E PROGRAM ELEMENT/PRO	PROJECT COST BREAKDOWN (R-3)	BREAKD	OWN (R-	<u>@</u>	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development PROJECT NO. AND NAME	PE NUMBE 06046((SFW)	PE NUMBER AND TITLE 0604604F/02073; (SFW)	20F Subm	unitions/	Sensor Fu	PENUMBER AND TITLE 0604604F/0207320F Submunitions/Sensor Fuzed Weapon (SFW)	
3166 JOINT SMAIT MUNITION TEST AND EVAIUATION Program							
(U) A. Project Cost Breakdown (\$ in Thousands)	FY 1995	FY 1996	FY 1997				
	960	938	1,023 685				
	300 700	230	250				
	200	500 573	600 600				
(U) Warhead Evaluation (U) Target Signature Tests	400 87	800 800	800 800				
(U) Models and Simulation Tools (U) Total	0 3,499	300 4,754	300 4,873				
(U) B. Budget Acquisition History and Planning Information (S i	ion (\$ in Thousands)						
Performing Organizations: Contractor or Contract Government Method/Type Award or Performing Project Performing or Funding Obligation Activity Office Activity Office Activity Office Activity Office Activity Office Activity Office Activity Date EAC	Project Total Office Prior to EAC FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations N/A							
Support and Management Organizations Sverdrup C/CIF ANSTEC C/FFP 46 OG/OGML	4,972 579 3,830	1,243 191 301	1,375 211 422	1,478 245 435	Cont	9,068 1,226 4,987	
	Page 5 of 11 Pages	Pages			Exhibit R-3	R-3	
	600						

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ST COST BR	EAKDO!	NN (R-3)		DATE M	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development PROJECT NO. AND NAME	PE NUMBER AND TITLE 0604604F/02073 (SFW)	PE NUMBER AND TITLE 0604604F/0207320F (SFW)	F Submu	nitions/Se	ensor Fuz	Submunitions/Sensor Fuzed Weapon
3166 Joint Smart Munition Test and Evaluation Program						
Test and Evaluation Organizations 46 OG/OGML	59,457	1,764	2,746	2,715	Cont	66,682
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation TOTAL	9,381 59,457 68,838	0 1,735 1,764 3,499	2,008 2,746 4,754	2,158 2,715 4,873	Cont Cont	0 15,282 66,682 82,964
	Page 6 of 11 Pages	S			Exhibit R-3	ကု



DATE RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE BUDGET ACTIVIT

(SFW)

SHEET (R-2 Exhibit)
March 1996
PENUMBER AND TITLE
0604604F/0207320F Submunitions/Sensor Fuzed Weapon

3166 Joint Smart Munition Test and Evaluation Program

PROJECT NO. AND NAME

5 - Engineering and Manufacturing Development

COST (\$ In Thousands)		FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
1016 Sensor Fuzed Weapon Production Support	1,464	9,596	0	0	0	0	0	TBD	ТВО	TBD

^{*} In FY96, Congress added these funds in PE 0604604F, Submunitions to start the SFW P3I program. AF will move these funds into PE 0207320F, Sensor Fuzed Weapon.

(U) A. Mission Description and Budget Item Justification

In FY95, this project funded SFW production program support. Starting in FY 96 the activity funds an improvement program for SFW. These improvements will also enhance the performance of SFW when fitted with the Wind Corrected Munitions Dispenser (WCMD) Kit and the anti-armor version of the Joint Standoff Weapon (JSOW/BLU-108). This program is in budget activity 5 - Engineering and Manufacturing Development, because it develops an improved BLU-108 enhance weapon performance against primary targets, targets with countermeasures, and potentially allow for use against alternative targets. The improvements will submunition for the Sensor Fuzed Weapon.

(U) FY 1995 (\$ in Thousands):

- Program management support, includes travel, program office supplies and equipment, training and technical engineering support (U) \$1,464
 - (U) \$1,464 Total

(U) FY 1996* (\$ in Thousands):

- (U) \$8,121 Award EMD contract for design, development and test of SFW P31
 - (U) \$750 Conduct government tests
- Program management support, includes travel, program office supplies and equipment, training and technical engineering support (U) \$725
 - (a) #0.500 Total
 - (U) \$9,596 Total

Page 7 of 11 Pages

RDT&E BUDGET ITEM JUSTIFICATI	IIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development PROJECT NO. AND NAME	PE NUMBER AND TITLE 0604604F/0207320F Submunitions/Sensor Fuzed Weapon (SFW)	nsor Fuzed Weapon
1016 Sensor Fuzea Weapon Production Support		

mad for SEW DAI in BV 1997 and FV1998. However, the Air Force will identify sources for SFW P3I funds in these years.

The FY 1997 PB has no funds programmed for SFW F31 in FY 1997, and FT 1996. However, the All Force will inching sources for SFW 1997 is as follow: The SFW P31 will need \$19.1 million in FY1997 and \$19.9 in FY1998 to complete the SFW P31 program. The planned progam for FY1997 is as follow:	(U) FY 1997 (\$ in Thousands):	300 Continue EMD contract for design, development, and test of SFW P3I	.00 Conduct government tests	Other government sup	00 Program management support, includes travel, program office supplies and equipment, training and technical engineering support	100 Total	
FY 1997 FB I SFW P3I will	U) FY 1997	- (U) \$16,300	- (U) \$1,200	- (U) \$100	- (U) \$1,500	- (U) \$19,100	
The							

(U) Change Summary Explanation:

Funding: In FY95, \$1,429,000 was reprogrammed to PE 0207320F (Sensor Fuzed Weapon) and \$35,000 remained in PE 0604604F, which we plan to reprogram to PE 0207320F. These funds are for SFW production support and belong in the SFW PE. Congress added funds in FY96 to start SFW P3I. Of the above threshold reprogramming in FY96, \$103,000 is for the Bosnia bill and \$105,000 is for F-16s for Jordan.

Schedule: None.

Technical: None.

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Exhibit R-2





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SUL ME	IFICAT	HS NOI	EET (R-	2 Exhib	jt)		DATE Ma	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm PROJECT NO. AND NAME	velopme	lent	PE NUMBE 06046((SFW)	PE NUMBER AND TITLE 0604604F/0207320F (SFW)	320F	Submuni	tions/Se	nsor Fuze	Submunitions/Sensor Fuzed Weapon
TOTE SERSOF FUZEG WEADON Production Suppor	роп								
(U) C. Other Program Funding Summary (\$ in Thousands) FY 1995	(housands) FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	To Compl	Total <u>Cost</u>
(U) SFW Production (Appn 3011) (U) SEEK EAGLE (Appn 3011) (U) TOTAL	108,464 4,252 112,716	160,811 4,636 165,447	131,146 0 131,146	140,163 0 140,163	150,080 0 150,080	146,846 0 146,846	149,875	501,422 0 501,422	1,710,484 10,888 1,721,372
(U) D. <u>Schedule Profile</u> (SFW P3I program)									
	FY 1995		1 2 E	FY 1996 2 3	4	FY 1997 2 3	9 <u>7</u> 3 4		
(U) Contract Award (U) SRR (U) Development (U) Trade Studies			<×××	××	× × ××	×	×		
(U) PDR (U) Detailed Design/DevelopTesting (U) CDR (U) Hardware Build/Qual test (U) FRP (U) FRP (U) P31 ECP FY99				×	< × ×	×	×		
			Page 9 of 11 Pages	l Pages				Exhibit R-2	2

RD	RDT&E PROGRAM ELEMENT/P	SRAM EL	EMENT/F	ROJECT	ROJECT COST BREAKDOWN (R-3)	REAKD(JWN (R-	3)	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development PROJECT NO. AND NAME	g and Manu	facturing	Developme	ınt	PE NUMBE 060460 (SFW)	PE NUMBER AND TITLE 0604604F/0207320F (SFW)		nunitions/	Sensor Fu	Submunitions/Sensor Fuzed Weapon	
TOTE SENSOF FUZEG WEADON Production Suppor	zea weapon F	roauction s	noddns								
(U) A. Project Cost Breakdown (\$ in Thousands)	st Breakdown (S in Thousan	<u>(sp</u>	FY 1995		FY 1996	FY 1997				
	ts tets s Support			0 0 1,464	0 0 64	8,121 325 400	000				
(U) Test and Evaluation(U) Government Furnish(U) Total	Test and Evaluation Government Furnished Equipment (GFE) Total	nent (GFE)		1,4	0 0 1,464	750 0 9,596	000				
(U) B. Budget Acquisition History and Planning Information	quisition Histor	y and Planni	ng Information	n (\$ in Thousands)	(spur						
Performing Organizations:	izations:										
Contractor or Government Performing	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations Textron Defense C/CPIF	nt Organizations C/CPIF	<u>s</u> Mar 96		TBD	0	0	8,121	0	TBD	TBD	
Support and Management Organizations Sverdrup C/CPAF Apr SAIC C/CPAF Apr ASC/YH N/A	ement Organiza C/CPAF C/CPAF N/A	<u>ttions</u> Apr 96 Apr 96		180 081 081	0 0 0	0 0 1,464	250 75 400	0 0 0	TBD TBD TBD	TBD TBD TBD	
Test and Evaluation Organizations 46 OG/OGML	Organizations			TBD	0	0	750	0	TBD	TBD	
				Pc	Page 10 of 11 Pages	ages			Exhibit R-3	₹-3	





RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	RAM ELI	EMENT/PROJI	ECT COST BR	EAKDO	WN (R-3	(DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development PROJECT NO. AND NAME	acturing [evelopment	PE NUMBER AND TITLE 0604604F/02073 (SFW)	DE NUMBER AND TITLE 0604604F/0207320F (SFW)	8	unitions/§	ensor Fu	Submunitions/Sensor Fuzed Weapon	
าบาธ sensor Fuzea Weapon Proauction Support	oauction Si	nopor							
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	and Plannin	g Information Contin	ued (\$ in Thousands)						
Government Furnished Property:									
Contract Method/Type Item or Funding Description	Award or Obligation <u>Date</u>	Delivery <u>Date</u>	Total Prior to FY 199 <u>5</u>	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Property Octol Army, Rock Island			0	0	0	0	0	0	
Support and Management Property None									
Test and Evaluation Property None									
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation			0 0	0 1,464 0	8,121 725 750	0 0 0	CETT CETT CETT	TBD TBD GBT	
Total Project			0	1,464	9,596	0	TBD	TBD	
			Page 11 of 11 Pages	res			Exhibit R-3	7-3	

RDT&E BUDGET ITEM JUSTIFICATION	TIFICATION SHEET (R-2 Exhibit)	DATE March 1996
JUDGET ACTIVITY	PE NUMBER AND TITLE	
5 - Engineering and Manufacturing Development	0604617F Air Base Operability	
ROJECT NO. AND NAME		
2895 Air Base Operability		

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	5,432	720'6	2,926	1,435	2,577	2,651	2,689	0	38,689
2895 Air Base Operability	5,432	7,00'6	2,926	1,435	2,577	2,651	2,689	0	Continuing

(U) A. Mission Description and Budget Item Justification

other global contingencies over the past 5 years. Lighter-weight rapidly deployable facilities and equipment have become essential in supporting contingencies for security, Lubricants, and structural fires at remote locations; and camouflage, concealment and deception systems to protect critical mission resources. Because of reduced funding This program is in budget activity 5 - Research, Development, Test and Evaluation because it supports Engineering and Manufacturing Development (EMD) of selected establishing air superiority. ABS provide beddown for aircraft, support equipment, and forces at both main operating bases and contingency operating locations, which may have only a runway and a water source. The need for ABS was dramatically illustrated during DESERT SHIELD/DESERT STORM/PROVIDE COMFORT, and Air Base Systems (ABS). Air Base Operability (ABO) integrates capabilities to rapidly deploy, and defend and sustain air base operations, which are prerequisites to and support for ABO in FY97 and beyond, we have consolidated all efforts into one project, 2895. All programs/project efforts continue in the Air Base Operability reconnaissance missions; a deployable system to repair/reinforce runways; a deployable fire protection system to detect and extinguish aircraft, Petroleum, Oil, and base defense, relief efforts, and special operations throughout the world. ABS capabilities being developed include: joint Service (Army-led) test, evaluation and acquisition of protective vehicles to be used by Air Force security police, civil engineers, and explosive ordnance disposal technicians for air base defense and Project; no efforts were terminated.

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Exhibit R-2





RDT&E BL	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE March 1996
вирсет астіуту 5 - Engineering and Manufacturing Development	facturing Development	PE NUMBER AND TITLE 0604617F Air Base Operability	
PROJECT NO. AND NAME 2895 Air Base Operability			
(U) FY 1995 (\$ in Thousands): - (U) \$1. Provided to the continued or the continue or the	Integrated Base Recovery Communication System requirements with the Wing Command and C Supported Army Engineering and Manufacturing Development (EMD) contract award for the U. Supported Army Engineering and Manufacturing Development (EMD) contract award for the U. Wheeled Vehicles (UA-HHV). (3QFY95) Continued Repair Quality Criteria (RQC) modeling for rapid runway repair analysis. (4QFY95) Completed EMD for the Deployable Pavement Repair System (DPRS). (4QFY95) Completed EMD of Mobile Aircraft Arresting System (MAAS) Upgrade program. (4QFY95) Continued support of Camourlage, Concentment and Deception (CCI) development. (4QFY95) Continued support of Camourlage, Concentment and Deception (CCI) development. (4QFY95) Continued support of Deployable Fire Protection System (DFPS). (4QFY95) Continued technical support. (4QFY95) Total Roussands): Complete EMD for UA-HHV and support Army production effort. (2QFY96) Complete EMD for UA-HHV and support Army production system (RORS). (3QFY96) Initiate EMD for Deployable Power Generation and Distribution System. (3QFY96) Initiate EMD for Deployable Power Generation and Distribution System. (3QFY96) Initiate Contingency Base Operations Tailored Threat Assessment. (2QFY96) Continue other technical support. (4QFY96) Continue other technical support. (4QFY95)	Provided technical support for the Explosive Ordnance Disposal/Mortuary Shield evaluation. (2QFY95) Provided technical support for the Explosive Ordnance Disposal/Mortuary Shield evaluation. (2QFY95) Supported Army Engineering and Manufacturing Development (EMD) contract award for the Up-Armored Heavy High Mobility Multi-Wheeled Vehicles (UA-HHV). (3QFY95) Completed Vehicles (UA-HHV). (3QFY95) Confined Repair (Quality Criteria (RQC) modeling for rapid runway repair analysis. (4QFV95) Completed EMD for the Deployable Pewment Repair System (DPRS). (4QFV95) Confined support of Camouflage, Concealment and Deception (CCD) development. (4QFV95) Confined support of Camouflage, Concealment and Deception (CCD) development. (4QFV95) Confined support of Camouflage, Concealment and Deception (CCD) development. (4QFV95) Confined support of Deployable Fire Protection System (DFPS). (4QFV95) Continued other technical support. (4QFY95) Total Award EMD contract for Rapid Ordnance Removal System (RORS), (3QFY96) Award EMD contract for Rapid Ordnance Removal System (RORS), (3QFY96) Initiate Contingency Base Operations Tailored Threat Assessment. (2QFY96) Establish Bare Base Phase III EMD Study. (2QFY96) Continue other technical support. (4QFV95) Continue other technical support. (4QFV95)	avy High Mobility Multi- (RURK) Phases I and II.
	Pag	Page 2 of 9 Pages	Exhibit R-2

RDT&E BUDGET ITEM JUSTIFIC	CATION	日 第	IIFICATION S ■ ET (R-2 Exhibit)		DATE	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE 0604617F Air B	ΣΤΙΤΙΕ Air Base Operability	ability		
PROJECT NO. AND NAME 2895 Air Base Operability						
(U) FY 1997 (\$ in Thousands): - (U) \$400 Continue Repair Quality Criteria modeling for rapid runway repair analysis. (3QFY97) - (U) \$450 Continue Engineering and Manufacturing Development (EMD) for Rapid Ordnance Removal System. (3QFY97) - (U) \$700 Continue EMD for Deployable Power Generation and Distribution System. (3QFY97) - (U) \$800 Initiate EMD for Medium/Large Shelters. (3QFY97) - (U) \$576 Continue other technical support. (4QFY97)	for rapid run evelopment (ation and Dis 3QFY97)	way repair ana (EMD) for Rap stribution Syste	ysis. (3QFY97) d Ordnance Remov m. (3QFY97)	al System. (3C	(FY97)	
(U) B. Program Change Summary (\$\frac{1}{2}\$ in Thousands)						
FY	FY 1995	FY 1996	FY 1997	Total <u>Cost</u>		
(U) Previous President's Budget	9,580 5.606	9,742 9.742	3,079	Cont		
ropriated Value		-180				
b. SBIR	-105	-226				
c. Below Threshold Reprogramming	<i>L</i> -	66-				
d. Omnibus and Above Threshold Reprogramming (1) Adjustments to Budget Years Since FY 1996 PB		-101 -50	-153			
	5,432	6,077	2,926	Cont		
(U) Change Summary Explanation: FY96 PB were non-pay purchases inflation and Congressional reductions. FY96 Omnibus and Above Threshold	on-pay purch	hases inflation	ind Congressional	eductions. FY	96 Omnibus a	and Above Threshold

Reprogramming adjustments due to Bosnia Reprogramming and F-16s to Jordan.

Schedule: No change.

Technical: No change.

Exhibit R-2



Page 3 of 9 Pages



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TEM JUS	IIFICAT	HS NOI	EET (R	-2 Exhib	jt)		рате Ма	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Developme	int	PE NU	PE NUMBER AND TITLE 0604617F Air B	пте ir Base O	ोगाट Air Base Operability				
PROJECT NO. AND NAME 2895 Air Base Operability										
(U) C. Other Program Funding Summary (\$ in Thousands)	n Thousands)									
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	To Compl	Total Cost	
(U) Other Procurement, AF, Other Base Maintenance and Support Program (0208028F):		:								
BP 82, Vehicles	0	4,974	3,300	12,177	10,082	4,300	0	0	34,833	
BP 83, Communications	8,746	3,956	0	0	0	0	0	0	12,702	
BP 84, Explosive Ordnance Disposal	0	0	0	1,000	5,927	8,038	1,552	Cont	16,517	
BP 84, Rapid Runway Repair	2,076	3,290	860	2,828	0	0	0	0	9,054	
BP 84, Deployable Fire Protection System	0	871	1,274	119	0	0	0	0 0	2,264	
BP 84, Petroleum-Oil-Lubricants Rapid Utilities	1,954	0	0	0	0	-	0	>	1,954	
Kepair Kit BP84, Medium/Large Shelters	0	0	0	0	0	3,000	0	0	3,000	
(U) D. Schedule Profile (asterisks denote start of an effort)	of an effort)									
	FY 1995			FY 1996		FY 1997	7			
	2 3	4	1 2	60	4 1	2	3 4			
Deployable Pavement Repair System Rnoineering and Manufacturing *		×								
Development		}								
Development test and evaluation &		×								
operational test and evaluation		>								
Production		< *					×			
									·	
			7-1	7				Evhihit D		
			rage 4 of 9 rages	rages				באוווטוורד	3	

RDT&E BUDGET ITER	M JUSTIFICA	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	velopment	PE NUMBER AND TITLE 0604617F Air Base Operability	
PROJECT NO. AND NAME 2895 Air Base Operability			
-	FY 1995	$\frac{\text{FY 1996}}{1 2 3 4 1 2 3 4}$	
Up-Armored Heavy High Mobility Multi- Purnose Wheeled Vehicles			
Jem/Val)	××		
and Manufacturing	*	X	
Development (EMD) Milestone III		×	
Production		*	
Base Recovery Communications System	>		
Integrate w/ Wing Citid Control System Rapid Ordnance Removal System	<		
Dem/Val	×		
Milestone II		× ×	
Camouflage, Concealment and Deception	×	4	
(CCD) Ground Jammer			
Development Test and Evaluation &	×		
Initial Operational Test and Evaluation CCD Multispectral Ground Decoys	×		
Dem/val			
	×		
EMD (Truck/F-16)	×		
EMD (F-15)	×		
CCD Multispectral Nets			
Milestone I/II	××		
CCD Point Target Obscurant System	1		
Dem/Val	×		
		Page 5 of 9 Pages	-2





RDT&E BUDGET I	ITEM JUSTIFICATIO	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Development	PE NUMBER AND TITLE 0604617F Air Base Operability	
PROJECT NO. AND NAME 2895 Air Base Operability			
Petroleum, Oil and Lubricants Rapid Utilities Repair Kit II Engineering and manufacturing development (EMD) Development test and evaluation & initial operational test and evaluation (DT&E/IOT&E) Milestone III Production Deployable Fire Protection System Milestone II EMD Milestone III Froduction	FY 1995 X * X *	FY 1996 2 3 4 1 2 3 4 X X X X X X X X X X X X X	
	Pa	Page 6 of 9 Pages	Exhibit R-2

RD	RDT&E PROGRAM ELEMENT/P	3RAM EL	EMENT/P	ROJECT COST BREAKDOWN (R-3)	COST BI	REAKDC	WN (R-	<u></u>	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	g and Manu	ifacturing [Jevelopme	int	PE NUMBER AND TITLE O604617F Air B	AND TITLE	אוזורנ Air Base Operability	oility			
PROJECT NO. AND NAME 2895 Air Base Operability	AME perability						:				
(U) A. Project Cost Breakdown (\$ in Thousands)	st Breakdown	(\$ in Thousand	(8)								
				FY 1995		FY 1996	FY 1997				
(U) Engineering an	Engineering and Manufacturing Development (EMD)	ng Development	t (EMD)	562		1,911	750				
(U) Development/C	Development/Operational Test and Evaluation	and Evaluation		101		06	70				
				086		2,731	950				
	nent Agencies			2,233		824	300				
(U) Materials/Equipment	lpment mort			69		12.7	0 4				
	oort			339	_	524	240				•
	upport			904		2,376	576				
(U) Total				5,432		9,077	2,926				
Performing Organizations:	izations:				1						
Contractor or Government Performing	Contract Method/Type or Funding	Award or Obligation	Performing Activity	Project Office	Total Prior to	Budget	Budget	Budget	Budget to	Total	
Activity	Vehicle	<u>Date</u>	EAC	<u>EAC</u>	F Y 1995	FY 1995	FY 1996	FY 1997	Complete	Frogram	
Product Development Organizations DPRS-Entwistle FPIF	nt Organization FPIF	<u>s</u> Jan 96	5,488	5,488	4,533	952	0	0	0	5,485	
UA-HHV-Army TACOM	MIPR	Jun 95	512	512	142	208	1,580	0	0	1,930	
DFPS-TBD	FFP	Jun 95	901	901	94	458	700	0	0	1,252	
CALS-	FFP	Sep 94	1,046	1,046	946	0	0	0	0	946	
BRCS-ESC/AV	AF Form 616	Sep 95	3,622	3,622	2,122	1,500	0	0	0	3,622	
				Pag	Page 7 of 9 Pages	Sõ			Exhibit R-3	R-3	
					4.0						





RD	RDT&E PROGRAM ELEMENT	SRAM EL		PROJECT	COST BREAKDOWN (R-3)	REAKDO	WN (R-3		DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	g and Manu	facturing	Developme	nt	PE NUMBER AND TITLE 0604617F Air B	AND TITLE F Air Ba	ो गाग्ट Air Base Operability	ility			
PROJECT NO. AND NAME 2895 Air Base Operability	AME perability										
Contractor or Government	Contract Method/Type	Award or	Performing	Project	Total	,	,	,	,		
Performing Activity	or Funding Vehicle	Obligation Date	Activity EAC	Office EAC	Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total Program	
POL RURK -	C/FP	Sep 95	1,659	1,659	1,628	31	0	0	0	1,659	
RORS-Army	MIPR	May 96	1,400	1,400	0	0	950	450	0	1,400	
EOD/Mortuary Shield-Various	Various	Various	169	169	138	-	0	0	0	139	
Mat Anchoring-	C/FP	Jun 95	268	268	243	0	0	0	0	243	
MAAS Upgrade-	Option	Jan 95	118	118	98	32	0	0	0	118	
CCD Projects-	Various	Various	12,434	12,434	1,884	585	0	0	0	2,469	
POL RURK - Phase II- DOF/SETA	MIPR	May 93	1,568	1,568	1,528	40	0	0	0	1,568	
Deployable Power	TBD	TBD	2,400	2,400	0	0	367	700	0	1,067	
Bare Base Test Medium/Large	SETA TBD	18D 18D	1,055	1,055	0 0	00	1,055	008	0 800	1,055 1,600	<u> </u>
Shelters EMD Studies & Air Base Threat Support-Various	Various	Various	7,766	7,760	4,416	721	2,150	400	0	7,687	
	-										
				Pa	Page 8 of 9 Pages	es			Exhibit R-3	R-3	

RDI	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	GRAM EL	EMENT/F	ROJE	7. C	OST BR	EAKDO	WN (R-3	<u> </u>	DATE	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	g and Manu	rfacturing l	Developme	int		PE NUMBER AND TITLE 0604617F Air B	AND TITLE F Air Bas	PE NUMBER AND TITLE OCO4617F Air Base Operability	oility		
PROJECT NO. AND NAME 2895 Air Base Operability	NME perability										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>		Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Support and Management Organizations Various Various Var	ement Organiza Various	ations Various	0		0	3,609	904	2,275	576	2,652	10,117
Test and Evaluation Organizations N/A	Organizations										
(U) B. Budget Acquisition History and Planning Information Continued (\$\sqrt{s}\$ in Thousands)	juisition Histor	ry and Plannir	ng Information	Continue	d (\$ in	Thousands)					
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	velopment d Management zaluation						17,760 3,609	4,528 904	6,802 2,275	800 2,652	32,240 10,016
Total Project							21,369	5,432	9,077	3,452	42,256
					Раде	Page 9 of 9 Pages	S			Exhibit R-3	R-3





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA.	TION SI	HEET (R	-2 Exhil	oit)		DATE M	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	nent	PE NI 000	PE NUMBER AND TITLE 0604618F Joint Direct Attack Munition	TILE oint Dire	ct Attack	Munitio	_		
PROJECT NO. AND NAME 3890 Joint Direct Attack Munitions			:		-				
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3890 Joint Direct Attack Munitions	65,553	85,916	38,636	34,717	24,567	1,459	1,238	1,800	337,340
(U) A. Mission Description and Budget Item Justification Desert Storm confirmed the need for a more accurate weapon delivery capability in adverse weather conditions from medium/high altitudes. Failure to satisfy this requirement will allow the enemy to continue to take advantage of the sanctuary of weather and/or prevent US air power from prosecuting a conflict on its terms. JDAM is an Air Force and Navy munitions program to correct these shortfalls, with the Air Force as the executive service. JDAM will upgrade the existing inventory of general purpose bombs (Mk-84, BLU-109, and Mk-83/BLU-110) by integrating them with a guidance kit consisting of a global positioning system aided inertial navigation system (INS/GPS). JDAM will provide an accurate (13 meters) adverse weather capability. JDAM will initially be integrated with the B-52H, B-2, B-1B and F/A-18C/D aircraft with follow-on integration on the F-16, F-15E, F-22, AV-8B and other aircraft. The JDAM Product Improvement Program (PIP) will field improvements to the JDAM system with emphasis on improving accuracy beyond 13 meters as well as JDAM system robustness. JDAM development is a two-phased Engineering and Manufacturing Development (EMD) effort. EMD Phase 1 emphasized competitive design and manufacturing processes. This program is funded in Budget Activity 5, EMD, because of the focus on devising an affordable design and manufacturing process.	pon delivery of the struct these shall be	capability in sanctuary of fortfalls, with integrating ters) adverse F-22, A/V-acy beyond ase 1 empha is test to veriful and manufil	adverse wee weather and h the Air For them with a weather cap 8B and other 13 meters as asized compe y system per acturing proc	uther conditiuor prevent free as the exemple guidance kinability. JD, raircraft. T well as JDA stitive design formance at cess.	ons from me US air powe ecutive serv t consisting AM will init he JDAM Pi M system re n and manuf id will suppe	cdium/high are from prose fice. JDAM of a global pailly be integended Impropusations. Jacturing propertions out OT&E.	ultitudes. Fai cuting a con will upgrade lositioning sy grated with the wement Prog DAM develo cesses. This	flure to satisf flict on its te the existing stem aided i he B-52H, B- gram (PIP) w prent is a ty phase comp i is funded ir	y this rms. inventory nertial 2, B-1B ill field ro-phased eted 10 i Budget
 (U) FY 1995 (\$\\$\$ in Thousands): (U) \$24,050 Completed EMD Phase 1 prime contractors' development activities, including fabrication and testing engineering evaluation units, instrumented measurement vehicles, separation test vehicles and guided test vehicles (U) \$33,202 Conducted Program Office Mission/Engineering Support tasks including aircraft interface requirements definition, aircraft safe separation wind tunnel tests, and flight tests of contractor designs (U) \$8,301 Continued Product Improvement Program (PIP) planning efforts to include Differential GPS (DGPS), and Mission Planning improvements (U) \$65,553 Total 	ntractors' deve , separation to /Engineering vind tunnel te ogram (PIP)	elopment actest vehicles. Support tasl sts, and fligl planning eff	tivities, inclu and guided t ks including ht tests of cor orts to inclu	iding fabrica est vehicles aircraft inte ntractor desi le Differenti	ttion and tes rface require igns al GPS (DG	ting enginee ments defin PS), and Mi	ractors' development activities, including fabrication and testing engineering evaluation units, separation test vehicles and guided test vehicles Engineering Support tasks including aircraft interface requirements definition, tail kit design requiremend tunnel tests, and flight tests of contractor designs ogram (PIP) planning efforts to include Differential GPS (DGPS), and Mission Planning improvements	on units, design requi	rements
 (U) FY 1996 (\$\frac{\psi}{10}\$ in Thousands): (U) \$\frac{\psi}{10}\$ (\$\frac{\psi}{10}\$ in Thousands): (U) \$\frac{\psi}{10}\$ (\$\frac{\psi}{10}\$ in Thousands): (U) \$\frac{\psi}{10}\$ (\$\frac{\psi}{10}\$ in the finite of the finite of the finite of the finite of the program activities of the prime contractor and continued Program Office Mission/Engineering Support tasks to define and coordinate the program activities of the prime contractor and various government development and test organizations	ivities to fabring support of Engineering nd test organi	icate develoj Faircraft inte Support tasl zations Page 1 oj	te development and of rcraft integration and pport tasks to define a ions	perational te test activitic ind coordina	st hardware ss ite the progr	and softwar am activities	e, final definitic of the prime α Exhibit R-2	ition and pro	of of

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FICATION	N SHEET (R-2 Exhibi	t)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developmen	nt	PE NUMBER AND TITLE 0604618F Join	D TITLE Joint Direct	PENUMBER AND TITLE OGO 4618F Joint Direct Attack Munition	u
PROJECT NO. AND NAME 3890 Joint Direct Attack Munitions					
 (U) \$7,460 Began JDAM Development Test and Evaluation (DT&E) activities including B-52 Instrumented Measurement Vehicle testing, safe separation flight tests on the F/A-18C/D, F-16, B-52 and B-1, ground margin testing and related mission planning activities (U) \$3,700 Continued PIP development to include improved guidance concept demonstrations, concept exploration studies for GPS anti-jam capabilities and improved mission planning/target location error efforts (U) \$85,916 Total 	lluation (DT&) 2 and B-1, gro nproved guida cation error efi	E) activities incl und margin testi nce concept dem forts	uding B-52 Instring and related monstrations, conc	umented Measuremen ission planning activi ept exploration studie	nt Vehicle testing, safe separation ties ss for GPS anti-jam capabilities
 (U) FY 1997 (\$\frac{8}\$ in Thousands): (U) \$8,596 Continue EMD prime contractor activities to include delivery of Guided Test vehicles (GTVs) and ground test equipment for DT/OT&E (I) \$8,357 Continue Program Office Mission/Engineering Support tasks to define and coordinate efforts of the prime contractor and various government and development test organizations (I) \$16,283 Conduct guided test flights for DT/OT&E on the F/A-18C/D, F-16, B-1, B-2, and B-52. (I) \$5,400 Conduct cost/benefit design analysis to define final PIP configuration and initiate integration into baseline tail kit design (II) \$38,636 Total 	ss to include de cering Support E on the F/A-1 cfine final PIP	elivery of Guidect tasks to define SC/D, F-16, B-1 configuration a	I Test vehicles (Candinate ed and coordinate ed , B-2, and B-52.	fTVs) and ground test forts of the prime con tion into baseline tail	t equipment for DT/OT&E tractor and various government kit design
(U) B. Program Change Summary (\$\sin Thousands)					
	FY 1995 84,995 67,583	FY 1996 92,161 92,161	FY 1997 85,907	Total <u>Cost</u> 697,519	
 (U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/President's Budget 	-744 -1,269 -17 -17	-1,826 -1,905 -2,514 85,916	-47,271 38,636	-360,179	
_					
Funding:					
	Pag	Page 2 of 7 Pages			Exhibit R-2
		010			





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development 0604618F Joint Direct Attack Munition
PROJECT NO. AND NAME 3890 Joint Direct Attack Munitions
FY96: Reductions for Small Business Innovative Research, General Congressional Reductions, \$1.567M reprogramming for F-16s to Jordan, and \$.947M reprogramming for Bosnia operations. FY97: The largest contributions to the \$47.271M change were a transferal of \$26M RDT&E funds to procurement to start Low Rate Initial Production (LRIP) one year earlier - see Schedule below; reduction in Product Improvement Program (PIP) funding (\$6.9M) for adapting seeker technologies to JDAM which was removed due to affordability concerns and competing budget priorities; and a \$9.0M reduction due to slower than planned program execution. Total Costs: Reductions in cost beyond FY97 are due to the elimination of funding for the development of a terminal seeker for JDAM PIP and lower than expected EMD Phase II costs. These reductions combined with the above changes resulted in a total cost reduction of \$360M.
Schedule: Acceleration of JDAM program shifts LRIP (Lot 1) start forward nine months from Dec 97 to Apr 97 and moves MSIII (Full Rate Production Decision) ahead by 15 months from Jul 99 to Apr 98. PIP technology efforts have been deleted.
Technical: PIP efforts are now focused on improving weapons accuracy through enhancements in the baseline GPS receiver, target location error reduction, and improved guidance and control.
(U) C. Other Program Funding Summary (\$ in Thousands)
To Total FY 1995 FY 1996 FY 1998 FY 1999 FY 2000 FY 2001 Compl Cost
(U) Appropriation: Missile Frocurement, All Force, Budget Activity. 2, Frogram 1100. 52,500 61,513 62,659 144,571 234,381 811,168 1,337,302 (U) Missile Procurement 0 0 23,000 61,513 62,656 2,676 6,410 10,202 39,079 62,000 (U) Quantities
(U) D. Schedule Profile
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
(U) Milestone II (U) Milestone II (U) EMD Phase II Contract Option (U) DT&E-Tech Eval Start (U) Operational Assessment x x x x (U) Operational Assessment
Page 3 of 7 Pages Exhibit R-2

RDT&E BUDGE	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ring Development	PE NUMBER AND TITLE 0604618F Joint Direct Attack Munition	
PROJECT NO. AND NAME 3890 Joint Direct Attack Munitions			
	$\frac{\text{FY 1995}}{1}$ 4 1	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
(U) IOT&E-OPEVAL Start (U) LRIP			
Additional Major Program Events (U) B-52 DT&E/IOT&E Complete (U) Milestone III (U) LRIP Deliveries Begin	FY98/Q2 FY98/Q2 FY98/Q3		
	Pag	Page 4 of 7 Pages	Exhibit R-2





RD	RDT&E PROGRAM ELEMENT/	3RAM EL	EMENT/P	PROJECT	COSTB	REAKDO	COST BREAKDOWN (R-3)	<u>8</u>	DATE	March 1996	
вирдет АСТІVITY 5 - Engineering and Manufacturing Developm	ig and Manu	facturing	Developme	ent	PE NUMBER AN 0604618F	PE NUMBER AND TITLE 0604618F Joint I	JITLE Joint Direct Attack Munition	sck Muniti			
PROJECT NO. AND NAME 3890 Joint Direct Attack Munitions	JAME ct Attack Muni	tions									
(U) A. Project Cost Breakdown (\$ in Thousands)	ost Breakdown (\$ in Thousan	(§)								
				FY 1995		FY 1996	FY 1997				
 (U) Primary Hardware (U) Test & Evaluation (U) Engineering & Pro (U) Product Improvem (U) Total 	Primary Hardware Development Test & Evaluation Engineering & Prog Mgt Support Product Improvement Program Total	ort		24,050 17,360 15,842 8,301 65,553	Φ &	68,692 7,460 6,064 3,700 85,916	8,596 16,283 8,357 5,400 38,636				
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	equisition Histor	ry and Planni	ng Information	ı (\$ in Thousaı	(spu						
Performing Organizations:	nizations:										
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations Prime CPAF Development	ent Organization CPAF	<u>ss</u> Oct-95	179,242	179,242	52,604	22,551	65,073	8,596	30,418	179,242	
Contractors Product	Various	Various	48,690	48,690	9,704	8,136	3,700	5,400	21,750	48,690	
Improvement Program (PIP) CMBRE JDAM OFP F-16 Test S/W	TBD	Jan-96 Jan-95	1,783	1,783 3,500		250 3,500	1,533			1,783	And the second
				P.	Page 5 of 7 Pages	ges			Exhibit R-3	R-3	
					666						

RD	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	GRAM EL	EMENT/F	ROJECT	COSTB	REAKD(JWN (R-	3)	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	g and Man	ufacturing	Developme	int	PE NUMBEI 060461	PE NUMBER AND TITLE 0604618F Joint	PE NUMBER AND TITLE 0604618F Joint Direct Attack Munition	ack Munit			
PROJECT NO. AND NAME 3890 Joint Direct Attack Munitions	AME ct Attack Mun	itions									
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office EAC	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Support and Management Organizations In-House Support	gement Organiza	ations									
TEAS Contractor NAWC Field	CPAF MIPR	Annual Annual	8,172 5,789	8,172 5,789	3,097 2,064	1,238 2,556	1,606	1,099	1,132 363	8,172 5,789	
GFE/GFP Mgt Mission Planning	Various UNK	Various Sep-93	3,206 7,123	3,206 7,123	2,438 200	416 2,315	302 1,300	50	1,813	3,206 7,123	CHURCHU JI M
JDAM B-1 OFP	UNK	Jul-93	3,787	3,787	1,200	2,587				3,787	
Aircraft Interface	P.O.	Various	2,500	2,500	2,500					2,500	
GPS Jamming 746 Test Sodn			284	284		34	250			284	
EMI Testing	MIPR	Feb-95	500	200		200				200	
DT Targets	MIPR	Jan-96	1,772	1,772			100	1,672		1,772	
TAMS	CPAF	Various	4,169	4,169	1,452	944	585	541	647	4,169	
Program Office	Various	Various	19,046	19,046	7,149	3,666	3,049	3,152	2,030	19,046	
Test and Evaluation Organizations Group 1 A/C Test Various ASC-SK P.O. AEDC Support P.O.	1 Organizations Various P.O.	Various Annual Sep-94	37,763 679 9,335	37,763 679 9,335	202 59 785	8,740 70 8,550	7,210 250	16,033	5,578 50	37,763 679 9,335	
				P_{ℓ}	Page 6 of 7 Pages	res			Exhibit R-3	2-3	





RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BF	REAKDO	WN (R-3		DATE	March 1996	
в∪рсет Асті∨іту 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604618F Join	AND TITLE F Joint D	JTITLE Joint Direct Attack Munition	ck Muniti			
PROJECT NO. AND NAME 3890 Joint Direct Attack Munitions							
	Total Prior to FY 1995	Budget FY 1995	Budget <u>FY 1996</u>	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Subtotal Product Development Subtotal Test and Evaluation Subtotal Support and Management Total Project	62,308 1,046 20,100 83,454	13,996 16,283 8,357 38,636	52,168 5,628 5,985 63,781	233,215 47,777 56,348 337,340			
	Page 7 of 7 Pages	SS			Exhibit R-3	- -3	

~	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	ION SI	HEET (R	-2 Exhi	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering	BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	ent	PE NI 000	PE NUMBER AND TITLE 0604703F Aero	ritle veromedi	cal Syste	ms Dev	PE NUMBER AND TITLE 0604703F Aeromedical Systems Development		
PROJECT NO. AND NAME 2866 Aeromedical/C	ROJECT NO. AND NAME 2866 Aeromedical/Casualty Care Systems Dev							:		
	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
2866 Aeromedical/Casu	Aeromedical/Casualty Care Systems Dev	7,890*	5,936	5,977	4,390	2,077	583	66	Cont	Cont
*See note on page 3										
(U) A. Mission Desc This program is in prediction of wart medical treatment	(U) A. <u>Mission Description and Budget Item Justification</u> This program is in budget activity 5 - Research, Development, Test and Evaluation because it supports development of systems for treatment, evacuation, and prediction of wartime casualties in a conventional or non-conventional warfare environment. Tactical, strategic, and covert aeromedical evacuation systems and medical treatment equipment are developed and fielded to meet unique Air Force medical readiness and operational requirements.	ent, Test and onventional meet unique	Evaluation warfare env Air Force n	because it s ironment. T nedical readi	upports deveractical, stra	slopment of s tegic, and cc erational req	systems for a wert aerome luirements.	reatment, ev dical evacua	acuation, an tion systems	d and
(U) FY 1995 (\$ in Thousands):	n Thousands):									
- (U) \$336	Transportable Blood Transshipment Center - Conducted functional configuration audit and initial production readiness review (1QFY95), completed operational test and evaluation (OT&E) (2QFY95), obtained Milestone III decision approval, initiated production (3QFY95), met	Center - Contion (OT&E	ducted func (2QFY95)	tional config , obtained N	guration aud filestone III	it and initial decision app	production roval, initia	readiness rev ted production	view (1QFY9 on (3QFY95))5),), met
	initial operational capability (4QFY95		· ·			•	`	•	,	
- (U) \$140	Spinal Cord Injury Transport System - Conducted a requirements analysis study supporting tri-Service requirements definition. (4QFY95)	- Conducted	a requirem	ents analysis	study supp	orting tri-Ser	rvice require	ments defini	ition (4QFY	95)
- (U) \$949 - (I) \$51	Threat Related Attrition Model - Completed integration testing for Build 1 and developed the ground attack module for Build 2. (4QFY95) Wartime Medical Planning System - Prepared initial acquisition strategy and initiated a system analysis and market analysis of potential	npleted inter Prepared init	gration testi ial acquisiti	ng for Build ion strategy	1 and devel and initiated	oped the gro l a svstem an	und attack 1 alvsis and 1	nodule for B narket analys	uild 2. (4QF sis of potenti	Y95) al
	commercial off-the-shelf solutions. (4QFY95)	QFY95)	4	3		,	,	•	•	
- (U) \$40	Alternating Current Interface Unit - Obtained Milestone III decision approval and awarded production contract. (4QFY95)	Obtained Mil	estone III d	ecision appr	oval and aw	arded produc	ction contra	ot. (4QFY95 or Proposal) (20FV95)	
- (U) \$114 - (U) \$400	Civil Reserve Air Fleet Aeromedical Evacuation Shipsets - Completed re-packaging of shipsets (1QFY95), met full operational capability and	Evacuation S	thipsets - Co	acquisition : ompleted re-	packaging o	f shipsets (1)	OFY95), me	st full operati	(حرجة المركز) ional capabil	ity and
	conducted concept studies and engineering analysis for different aircraft configurations. (4QFY95)	ering analys	is for differe	ent aircraft c	onfiguration	is. (4QFY95	(c			
- (U) \$2,686	Chemically Hardened Air Transportable Hospital/Chemically Hardened Air Management Plant (CHATH/CHAMP) - Completed Phase I of	ble Hospital/	Chemically initiated Dh	Hardened A	ir Managen ۷٥جا	nent Plant (C	HATH/CH	AMP) - Com	pleted Phase	Jo I
– (U) \$376	Aeromedical Systems Analysis - Conducted foundation studies and analyses to support core aeromedical/casualty care and health care	opanient and Jucted found	ation studie	ase II. (+CF) s and analys	iss to suppor	t core aerom	edical/casu	alty care and	health care	
	requirements in support of USAF/SG		ngineering g	goals and ob	jectives. (Co	ontinuing W	ar Gaming	and Electrica	medical reengineering goals and objectives. (Continuing War Gaming and Electrical Conversion	
	Conditioning Citit)									
			Page 1 of 8 Pages	8 Pages				Exhibit R-2	-2	





RDT&E	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	nufacturing Development	PE NUMBER AND TITLE 0604703F Aeromedical Systems Development	lopment
PROJECT NO. AND NAME 2866 Aeromedical/Casualty Care Systems Dev	Care Systems Dev		
- (U) \$1,199 Fundec contrac - (U) \$6,291 Total	Funded proportional efforts of Human Systems Center, contractor. (4QFY95) Total	Funded proportional efforts of Human Systems Center, System Program Office, and Technical Engineering and Management Support contractor. (4QFY95) Total	d Management Support
(U) <u>FY 1996 (\$ in Thousands):</u> – (U) \$157 Transport	able Blood Transshipment	Center - Deliver initial production units. Study module concepts to support USAF/SG medical readiness	ort USAF/SG medical readiness
reengii - (U) \$854 Spinal	reengineering initiative. (4QF Y 96) Spinal Cord Injury Transport System (SCITS) - Develorenirements (40FY96)	(SCITS) - Develop acquisition strategy and obtain Milestone I/II decision approval to support tri-Service	n approval to support tri-Service
- (U) \$1,068 Threat	Threat Related Attrition Model - Integrate ground attamplear, biological and chemical modules, (40FY96)	Threat Related Attrition Model - Integrate ground attack model for Build 2 and complete integration testing, deliver Build 2 and develop muclear, biological and chemical modules. (40FY96)	teliver Build 2 and develop
- (U) \$126 Wartime P - (U) \$1,532 Continuo	Wartime Medical Planning System - Complete systems requirements analysis. (3QFY96) Continuous/Intermittent Suction Unit - Obtain Milestone II decision approval and begin (AOFY96)	Wartime Medical Planning System - Complete systems requirements analysis. (3QFY96) Continuous/Intermittent Suction Unit - Obtain Milestone II decision approval and begin engineering and manufacturing development.	ufacturing development.
- (U) \$22 Altern - (U) \$1,105 Chemi	Alternating Current Interface Unit (ACIU) - Complete production. (4QFY96) Chemically Hardened Air Transportable Hospital/Chemically Hardened Air North Chemically Hardened Air North Chemical A	Alternating Current Interface Unit (ACIU) - Complete production. (4QFY96) Chemically Hardened Air Transportable Hospital/Chemically Hardened Air Management Plant (CHATH/CHAMP) - Complete CHAMP	AMP) - Complete CHAMP
develoj - (U) \$31 Aerom require	development test and evaluation (D1&E). (4QF 190) Aeromedical Systems Analysis - Conduct foundation s requirements in support of USAF/SG medical reengine	development test and evaluation (D 1 & D). (4 QF 1 20) Aeromedical Systems Analysis - Conduct foundation studies and analyses to support core aeromedical and casualty care and health care requirements in support of USAF/SG medical reengineering goals and objectives. (Continuing War Gaming and Electrical Conversion	ualty care and health care and Electrical Conversion
Conditioni (U) \$552 Civil Reservationi	ng Unit) rve Air Fleet Aeromedical	Evacuation Shipsets - Continue studies and support analysis for different airframes and configurations.	airframes and configurations.
(1) \$489 Funder contract	(Text 170) Funded proportional efforts of Human Systems Center, contractor. (40FY96)	(HCLL)) Funded proportional efforts of Human Systems Center, System Program Office, and Technical Engineering and Management Support contractor. (40FY96)	nd Management Support
- (U) \$5,936 Total			
(U) <u>FY 1997 (\$ in Thousands)</u> : - (U) \$138 CHATH/C decision al	housands): CHATH/CHAMP - Complete CHAMP operational test and decision approval and exercise production option (3QFY97) SCITS - Begin DT&E. (3QFY97).	housands): CHATH/CHAMP - Complete CHAMP operational test and evaluation, meet initial operational capability (1QFY97), obtain Milestone III decision approval and exercise production option (3QFY97). SCITS - Begin DT&E. (3QFY97).	FY97), obtain Milestone III
	Pa	Page 2 of 8 Pages	Exhibit R-2

R	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	CATION	SHEET (R	2-2 Exhibit		DATE March 1996
BUDGET ACTIVITY 5 - Engineering a	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE 0604703F Aero	TITLE Veromedica	PE NUMBER AND TITLE 0604703F Aeromedical Systems Development	velopment
PROJECT NO. AND NAME 2866 Aeromedical/C	ROJECT NO. AND NAME 2866 Aeromedical/Casualty Care Systems Dev					
- (U) \$75 - (U) \$337 - (U) \$40 - (U) \$2,868 - (U) NSP - (U) \$168 - (U) \$1,734 - (U) \$1,734	Threat Related Attrition Model - Integrate nuclear, biological and chemical modules for Build 3, complete integration testing (3QFY97), and deliver Build 3 (4QFY97). Theater Medical Information Program - Conduct engineering and manufacturing development (EMD) planning. (4QFY97) Continuous/Intermittent Suction Unit - Complete operational testing (2QFY97) and obtain Milestone III decision approval. (3QFY97) Civil Reserve Air Fleet Aeromedical Evacuation Shipsets - Continue development of modifications of shipsets to support Air Mobility Command selected airframes and provide associated support equipment including the Casualty Transport System. (4QFY97) Aeromedical Systems Analysis - Conduct foundation studies and analyses to support core aeromedical and casualty care and health care requirements in support of USAF/SG medical reengineering goals and objectives. (Continuing) Air Force Medical Wargaming System - Conduct EMD planning. (4QFY97) Funded proportional efforts of Human Systems Center, System Program Office, and Technical Engineering and Management Support Total	nuclear, biolanduct engine plete operal tion Shipse ssociated sur undation stral reenginee nduct EMD ms Center, '	rate nuclear, biological and chemical n - Conduct engineering and manufactur Complete operational testing (2QFY9) vacuation Shipsets - Continue develops ide associated support equipment inclust foundation studies and analyses to sedical reengineering goals and objection - Conduct EMD planning. (4QFY97) Systems Center, System Program Office	al modules for I acturing develop FY97) and obtai slopment of mod neluding the Car to support core jectives. (Contin 977)	rate nuclear, biological and chemical modules for Build 3, complete integration testin - Conduct engineering and manufacturing development (EMD) planning. (4QFY97) Complete operational testing (2QFY97) and obtain Milestone III decision approval. vacuation Shipsets - Continue development of modifications of shipsets to support Ai ide associated support equipment including the Casualty Transport System. (4QFY97) act foundation studies and analyses to support core aeromedical and casualty care and nedical reengineering goals and objectives. (Continuing) - Conduct EMD planning. (4QFY97) Systems Center, System Program Office, and Technical Engineering and Managemen	rate nuclear, biological and chemical modules for Build 3, complete integration testing (3QFY97), and - Conduct engineering and manufacturing development (EMD) planning. (4QFY97) - Complete operational testing (2QFY97) and obtain Milestone III decision approval. (3QFY97) vacuation Shipsets - Continue development of modifications of shipsets to support Air Mobility ide associated support equipment including the Casualty Transport System. (4QFY97) uct foundation studies and analyses to support core aeromedical and casualty care and health care nedical reengineering goals and objectives. (Continuing) - Conduct EMD planning. (4QFY97) Systems Center, System Program Office, and Technical Engineering and Management Support
U) B. Program Chan	U) B. Program Change Summary (\$\frac{1}{2}\) in Thousands)				Total	
(U) Previous President's Budget(U) Appropriated Value(II) Adjustments to Appropriated Value	d Volue	FY 1995 8,178 8,178	FY 1996 6,267 6,267	FY 1997 6,225	Cont	
ર્તસં <u>તે</u> છે.	Jen Reductions d Reprogramming	-123 -153 -1,611	-122 -113 -64		è	
d. Omnibus and Al(U) Adjustments to Buc(U) Current Budget Sul	 d. Omnibus and Above Threshold Reprogramming Adjustments to Budget Years Since FY 1995 PB Current Budget Submit/President's Budget 	6,291	-32 5,936	-248 5,977	Cont	
 (U) Change Summary Explanation: Funding: Adjustments to B (\$1.6M) due to program req Schedule: No change. Technical: No change. 	inge Summary Explanation: Funding: Adjustments to Budget Years since FY96 PB were non-pay purchase inflation and Congressional reductions. Below Threshold Reprogramming (\$1.6M) due to program requirements redefinition (reprogramming paperwork in process). Schedule: No change. Technical: No change.	non-pay pur ming paper	chase inflation an work in process).	d Congressional	reductions. Belov	w Threshold Reprogramming
		Page	Page 3 of 8 Pages			Exhibit R-2





				Ç	1 1 2			DATE	
RDI&E BUDGE! HEM JUSTIFICATION SHEET (R-2 EXHIBIT)	M JUSI	IFICAL	NO NO	בבו (א-	z Exnib	(1)		Mar	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	velopme	ent	PE NUN 0604	PE NUMBER AND TITLE 0604703F Aero	rle romedic	al Syste	D TITLE Aeromedical Systems Development	opment	
PROJECT NO. AND NAME 2866 Aeromedical/Casualty Care Systems Dev	>						,		
(U) C. Other Program Funding Summary (\$\\$\) in Thousands)	onsands)								
(U) Other Procurement, AF, BP, Other Base and Maintenance Support, Medical/Dental Equipment	<u>FY 1995</u> 6,500	FY 1996 10,921	FY 1997 7,655	FY 1998 4,536	FY 1999 5,827	FY 2000 3,000	FY 2001	To Compl	Total Cost Cont
(U) D. Schedule Profile (asterisks denote start of effort)	(ort)								
1 Transportable Blood Transshipment Center	FY 1995 2 3	4	1 2	FY 1996 2 3	4	FX 1997 2 3	3 4		
Critical Design Review Development Test & Evaluation (DT&E) Functional Configuration Audit Operational Test & Evaluation	, ×								
Initiate Production Initial Operational Capability (IOC) Full Operational Capability (FOC)	•	×					*		
Spinal Cord Injury Transport System Analysis Supporting Tri-Service Reqts Milestone I/II		×			×		×		
Threat Related Attrition Model IOC FOC			×				×		
			Page 4 of 8 Pages	Pages				Exhibit R-2	

RDT&E BUDGET ITEM	JUSTIFICATIO	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	lopment	PE NUMBER AND TITLE 0604703F Aeromedical \$	ो गा⊓. Aeromedical Systems Development
PROJECT NO. AND NAME 2866 Aeromedical/Casualty Care Systems Dev			
E I	FY 1995 2 3 4 1	FY 1996 2 3 4 1	FY 1997 2 3 4
Alternating Current Interface Unit Production Contract	*	×	
Civil Reserve Air Fleet Acromedical Evacuation Shinsets			
Repackage shipsets/rewrite manuals X	×		
Conduct Studies/Analysis for aircraft	< *	X	
configurations Complete shinset modifications			×
Chemically Hardened Air Transportable			
Hospital/Chemically Hardened Air Management Plant (CHATH/CHAMP)			
Engineering and Manufacturing			×
Development Complete CHAMP development test &		×	
evaluation		!	
Complete CHAMP operational test and		×	
Evaruation Exercise Production option			*
	Pa	Page 5 of 8 Pages	Exhibit R-2

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RDT&E PROGRAM ELEMENT/PRO.	JECT COS	PROJECT COST BREAKDOWN (R-3)	OWN (R-3)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE N	PE NUMBER AND TITLE 0604703F Aero	PE NUMBER AND TITLE 0604703F Aeromedical Systems Development	s Development
PROJECT NO. AND NAME 2866 Aeromedical/Casualty Care Systems Dev	·			
EY 1995 1 2 3 Continuous/Intermittent Suction Unit Release draft request for proposal X		FY 1996 2 3 4	$\frac{\text{FY } 1997}{2}$	4
Milestone II EMD Milestone III	×	×	×	
(U) A. <u>Project Cost Breakdown (S in Thousands)</u>	FY 1995	FY 1996	FV 1997	
 (U) Engineering and Manufacturing Development (U) Development/Operational Test and Evaluation (U) Contractor Engineering Support (U) Miscellancous (System Program Office Operations) (U) Mission Support/Supplies (U) Total 	3,731 422 1,199 925 14 6,291	3,477 179 1,657 561 62 5,936	3,828 121 1,412 555 61 5,977	
	Page 6 of	Page 6 of 8 Pages		Exhibit R-3

RD	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	GRAM EL	EMENT/F	ROJECT	COSTB	REAKD(JWN (R-	3)	DATE	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	ng and Manı	ufacturing	Developme	ent	PE NUMBER AN 0604703F		nedical Sy	rstems De	ोगा∟ Aeromedical Systems Development	ţ
PROJECT NO. AND NAME 2866 Aeromedical/Casualty Care Systems Dev	NAME cal/Casualty C	are Systems	Dev							
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	cquisition Histo	ry and Plannii	ng Informatio	n (\$ in Thousa	(spu					
Performing Organizations:	nizations:									
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Product Development Organizations TBTC-Arthur D. CPAF/FFP	ent Organizations CPAF/FFP	<u>s</u> Mar 91	11,033	13,289	13,134	73	82	0	0	13,289
CHATH/CHAMP Phase I-EASI	FPIF	Dec 94	2,989	2,989	2,985	4	0	0	0	2,989
CHATH/CHAMP Phase II-TBD	FPIF	Aug 95	TBD	5,048	1,793	1,747	1,081	138	0	4,759
CISU-TBD WAR-MED PS-	CPIF CPAF	Jul 96 May 96	TBD 6,159	69 6,159	0 0	25 10	34	10	0 0	69
THREAT-BDM New Business-	CPFF Various	Aug 94 Various	2,784	2,784	864 17,477	765 609	1,117	1,063 2,540	222 Cont	4,031 21,529
Miscellaneous- Various	Various	Various			17,234	498	260	77	Cont	18,069
Support and Management Organizations TEAMS-OpTech, Delivery Van McDonald Tech, Order MTC	gement Organizat Delivery Order	<u>tions</u> Various			3,061	1,199	1,657	1,412	Cont	7,329
SPO Operations	Various	Various			3,767	818	561	555	Cont	5,701
				P_{ℓ}	Page 7 of 8 Pages	ies			Exhibit R-3	۶-3
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RDT&E	ROGRAM	RDT&E PROGRAM ELEMENT/	/PROJECT	COST BREAKDOWN (R-3)	REAKDC	WN (R-	<u>∞</u>	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Manufacturi	ing Developm	ent	PE NUMBER AND TITLE 0604703F Aero	AND TITLE	redical Sy	stems De	रमात्त∈ Aeromedical Systems Development	ţ	
PROJECT NO. AND NAME 2866 Aeromedical/Casualty Care Systems Dev	alty Care Syst	tems Dev								
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle	t Type Award or ing Obligation <u>Date</u>	or Performing ion Activity EAC	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Mission Support/ Various Supplies	Various	_		532	121	62	61	Cont	776	
Test and Evaluation Organizations White Sands Missile Range	<u>ations</u>			0 (197	0 (0 0	0 0	197	
Aberdeen Proving				0	114	0	>	o	114	
SA-ALC				2 5	4 4	0 0	0		9 4	
Armstrong Lab Other				138	102	179	121	0	540	
(U) B. Budget Acquisition History and Planning Information Continued (S in Thousands)	History and Pl	anning Informatio	n Continued (§	in Thousands	୍ଷ			·		
			·	Total Prior to \overline{FY} 1995						
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	ant gement 1			53,487 7,360 140	3,731 2,138 422	3,477 2,280 179	3,828 2,028 121	222 Cont	64,745 13,806 862	
Total Project				60,987	6,291	5,936	5,977	Cont	79,413	
		,	I	Page 8 of 8 Pages	sə			Exhibit R-3	R-3	

March 1996 DATE RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) **BUDGET ACTIVITY**

5 - Engineering and Manufacturing Develop

PE NUMBER AND TITLE

Dev	
Equip	
upport	
0604704F Common Support Equip Dev	
0604704F	
ment	

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	1,383	1,118	0	0	0	0	0	0	51,862
2479 Common Support Equipment Development	304	0	0	0	0	0	0	0	6,210
3759 Air Force Support Equipment Management	124	0	0	0	0	0	0	0	3,775
3852 60K Pound Capacity Aircraft Transporter Loader	809	1,118	0	0	0	0	0	0	41,877

(U) A. Mission Description and Budget Item Justification

development of an air transportable 60,000 (60K) pound capacity aircraft transporter loader, project #3852. Project numbers 3759 and 3852 are being transferred to This program is in budget activity 5 - Engineering and Manufacturing Development (EMD), Research Category 6.4 because the majority of the funded efforts focus on preparing for an acquisition milestone III decision to initiate production. This program element supports projects and tasks that develop, test, evaluate and field other PEs. Project number 3759, Air Force Support Equipment Management, will transfer to PE 0708611F, Support Systems Development. Project number 3852, improved aircraft common support equipment to meet the operational mission needs of both Global Reach and Global Power forces, which cannot be met through non-developmental item (NDI) acquisitions. Its goal is to limit proliferation; increase standardization; reduce the deployment footprint; reduce the environmental impact; and improve performance, availability, and reliability and maintainability; thereby reducing the life cycle costs. This program element also supports the 60K Pound Capacity Aircraft Transporter Loader, will transfer to PE 0401214F, Air Cargo Materiel Handling (463L).

Page 1 of 12 Pages





RDT&E BUDGET ITEM JUSTIFICATION	TIFICATION SHEET (R-2 Exhibit)	-2 Exhib	it)	DATE	i i	March 1996
вирсет астімту 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604704F Common Support Equip Dev	пе ommon S	upport Equ	iip Dev		
(U) B. Program Change Summary (\$ in Thousands)						
			Total			
FY	FY 1996	FY 1997	Cost 4 785			
(U) Previous President's Budget (U) Appropriated Value	1,167	1,300	2,772			
Ad	-23		-40			
a. Cong Gen Reductions b. SBIR	-17		-47			
c. Omnibus or Other Above Threshold Reprogram	6-		6- 771-			
d. Below Threshold Keprogramming Adjustments to Budget Vegrs Since FV 1996 PB	-756	-1,306	-2,062			
(U) Current Budget Submit/President's Budget 1,383	1,118	0	2,501			
(U) Change Summary Explanation: Funding: FY1995 BTR was in support of the C-17 program. FY1996 adjustment was for the realignment of project #3759 from this Program Element (PE) to 0708611F, Support Systems Development. FY1997 adjustment was for realignment of projects #3759 and #3852. Project #3852 was realigned from this PE to PE0401214F, Air Cargo Materiel Handling (463L).	gram. FY1996 adjustment was for the realignment of project #3759 from this Program Element (PE) to PE justment was for realignment of projects #3759 and #3852. Project #3852 was realigned from this PE to	he realignmer ects #3759 an	tt of project #37 d #3852. Proje	'59 from th ct #3852 w	is Program E as realigned	lement (PE) to PE from this PE to
Schedule: No impact to the program.						
Technical: No impact to the program.						
(U) C. Other Program Funding Summary (\$ in Thousands)						
(U) Appropriation: Other Procurement, AF	FV 1997 FY 1998	FY 1999	FY 2000 F	FY 2001	To	Total Cost
42,336		29,660	l	31,652	0	TBD
(U) D. Schedule Profile: See individual project R-2 Exhibit Sheets.						
A	Page 2 of 12 Pages				Exhibit R-2	
			•			

March 1996 DATE 0604704F Common Support Equip Dev RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 5 - Engineering and Manufacturing Development 2479 Common Support Equipment Development PROJECT NO. AND NAME BUDGET ACTIVITY

(U) A. Mission Description and Budget Item Justification

2479 Common Support Equipment Development

reliability and maintainability, reduce the environmental impact, and lower the life cycle costs. The Advanced X-ray Equipment System (AXES) task developed and tested a more rugged and deployable high resolution x-ray system. The AXES development task was terminated because the acquisition strategy was changed from improved acquisition of new SE. Improved acquisition of new common SE for the aircraft will decrease the mobility footprint, increase standardization, increase Project #2479, Common Support Equipment (SE): This project develops and tests common SE to fill a continuing need to improve aircraft readiness through R&D to Commercial Off-The-Shelf (COTS).

6,210

0

0

0

0

304

Total Cost

Cost to Complete

FY 2001 Estimate

FY 2000 Estimate

FY 1999 Estimate

FY 1998 Estimate

FY 1997 Estimate

FY 1996 Estimate

FY 1995 Actual

COST (\$ In Thousands)

(U) FY 1995 (\$ in Thousands):

Completed acquisition phase II and terminated the AXES development task, effective 2Q95 (U) \$304

Total (U) \$304 (U) FY 1996 (\$ in Thousands): Not Applicable.

(U) FY 1997 (\$ in Thousands): Not Applicable.

935

Page 3 of 12 Pages

(U) B. Program Change Summary (\$\sqrt{s}\$ in Thousands)





### DEPLY OF COMMON SUPPORT Equip Dev D604704F Common Support Equip Dev FY 1995	RDT&E BUDGET ITEM JUSTIFICATION	TIFICATION SHEET (R-2 Exhibit)	R-2 Exhibit		DATE March 1996
Second Equipment Development Pay 1995 Fay 1996 Fay 1997 Cost 304 153 103 560 504 153 103 560 504 504 153 103 560 504	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND 0604704F	TITLE COMMON Su	pport Equip D	
Total Budget	PROJECT NO. AND NAME 2479 Common Support Equipment Development				
b. SBIK c. Ommibus or Other Above Threshold Reprogram c. Ommibus or Other Above Threshold Reprogramming Adjustments to Budget Years Since FY 1996 PB Current Budget Submit/President's Budget Change Summary Explanation: Funding: FY1996 and 1997 adjustments were reprogrammed to the 60K Loader project #3852. Schedule: No impact to the program. Technical: No impact to the program. C. Other Program Funding Summary (\$ in Thousands): Not Applicable. D. Schedule Profile EY 1995 A 1 2 3 4 1 2 3 4 1 2 3 4 Terminated the AXES task Terminated the AXES task Terminated the AXES task	FY 1 Budget ropriated Value tions	<u>FY 1996</u> 153	<u>FY 1997</u> 103	Total Cost 560 304	
adjustments were reprogrammed to the 60K Loader project #3852. program. ummary (\$ in Thousands): Not Applicable. 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4	 b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming Adjustments to Budget Years Since FY 1996 PB Current Budget Submit/President's Budget 	-153 0	-103	-256 304	
program. e program. $\frac{\text{FY 1995}}{1} \text{ Not Applicable.}$ $\frac{\text{FY 1996}}{X} \text{ A} + 1 \frac{\text{FY 1996}}{2} \text{ A} + 1 \frac{\text{FY 1997}}{2} \text{ A}$ $\frac{\text{FY 1997}}{X}$	(U) Change Summary Explanation: Funding: FY1996 and 1997 adjustments were reprogrammed to the 60	ıK Loader project ♯	3852.		
e program. FY 1995	Schedule: No impact to the program.				
FY 1995	Technical: No impact to the program.				
FY 1995 1 2 3 4 1 2 3 4 1 2 3 4 X X Page 4 of 12 Pages	(U) C. Other Program Funding Summary (\$ in Thousands): Not Applicab	le.			
FY 1995 FY 1996 FY 1997 1 2 3 4 1 2 3 4 X X Page 4 of 12 Pages	(U) D. Schedule Profile				
	1 2 3 X X	FY 1996	4		
	D	age 4 of 12 Pages			Exhibit R-2

RDT&E PROGRAM ELEMENT/PROJEC	ROJECT COST BREAKDOWN (R-3)		DATE March 1996
nd Manufacturing Developme	PE NUMBER AND TITLE 0604704F Comm	STITLE Common Support Equip Dev	
PROJECT NO. AND NAME 2479 Common Support Equipment Development			
(U) A. Project Cost Breakdown (\$ in Thousands)			
FY]	FY 1995 FY 1996	FY 1997	
(U) Engineering and Support (U) Total	304 304 0	0	
(U) B. Budget Acquisition History and Planning Information (\$ in Thou	(\$ in Thousands): Not Applicable.		
	Page 5 of 12 Pages		Exhibit R-3
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA.	FION SE	HEET (R	-2 Exhi	bit)		DATE N	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	nent	PE NI 090	PE NUMBER AND TITLE 0604704F Com	ritle common	STITLE Common Support Equip Dev	Equip De	۸é		
PROJECT NO. AND NAME 3759 Air Force Support Equipment Management									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3759 Air Force Support Equipment Management	471	0	0	0	0	0	0	0	3,775
(U) A. Mission Description and Budget Item Justification Project #3759, Air Force Support Equipment Management: The Automatic Test Systems (ATS) Product Group Manager's (PGM) Product Master Plan (PMP) and Project #3759, Air Force Support Equipment Management: The Automatic Test Systems (ATS direction and provide the interface with commercial software ATS database and software standards effort is designed to provide the tools to track and plan the ATS direction and ATS PGM long-term planning by capturing essential data on all Air Force ATS. The ATS database will include all ATS identified in the PMP and be used to interface with Integrated Weapon System Master Plans. It will provide ATS managers and users the capability to match new test requirements to existing test capabilities (Note: This project has been transferred to PE 0708611F, Support Systems Development, beginning in FY1996).	t: The Autor provide the 1 S PGM long. face with Int face with Int	natic Test Si ools to track ferm planni egrated Wee s project has	ystems (ATS c and plan th ing by captur apon System been transf	S) Product G le ATS directing essentia Master Plan extred to PE (roup Manag tion and pro I data on all is. It will pr	er's (PGM) vide the into Air Force A ovide ATS 1 apport Syste	Product Mas erface with c ITS. The A1 managers an	i: The Automatic Test Systems (ATS) Product Group Manager's (PGM) Product Master Plan (PMP) and provide the tools to track and plan the ATS direction and provide the interface with commercial software S PGM long-term planning by capturing essential data on all Air Force ATS. The ATS database will face with Integrated Weapon System Master Plans. It will provide ATS managers and users the capabilitic (Note: This project has been transferred to PE 0708611F, Support Systems Development, beginning in	P) and ffware vill pability ng in
(U) FY 1995 (\$ in Thousands): - (U) \$159 Completed development of the ATS Master Plans - (U) \$5 Continued ATS Product Master Plan (PMP) data maintenance - (U) \$243 Programmed upgrades and updates and maintained the ATS database - (U) \$64 Program management support - (U) \$471 Total	Master Plans 1 (PMP) data 1 and maintaine	s maintenanc ed the ATS	ce database						
(U) FY 1996 (\$ in Thousands): Not Applicable.									
(U) FY 1997 (\$ in Thousands): Not Applicable.									
		Page 6 of	Page 6 of 12 Pages				Exhibit R-2	3-2	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	IFICATIO	N SHEET (R-2 Exhibit		DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	jt.	PE NUMBER AND TITLE 0604704F Com	D TITLE Common St	STITLE Common Support Equip Dev	
PROJECT NO. AND NAME 3759 Air Force Support Equipment Management					
(U) B. Program Change Summary (\$\frac{1}{2}\$ in Thousands)					
				Total	•
(U) Previous President's Budget (U) Appropriated Value	FY 1995 693 693	<u>FY 1996</u> 701	FY 1997 689	Cost 12,083 693	
(U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR	-17	-210	-210	-437 -30	
	-175	-491	-479	-175 -970	
(U) Current Budget Submit/President's Budget	471	0	0	471	
(U) Change Summary Explanation: Funding: This project, #3759, and associated funding tran	nsferred to PE (0708611F, Suppc	ort Systems Devel	transferred to PE 0708611F, Support Systems Development, beginning in FY1996.	FY1996.
Schedule: No impact to the program.					
Technical: No impact to the program.					
(U) C. Other Program Funding Summary (\$ in Thousands): Not Applicable.	Vot Applicable.				
(U) D. Schedule Profile: Not Applicable.					

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ECT COS	T BREAK	DOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NI 000	PE NUMBER AND TITLE 0604704F Com	STITLE Common Support Equip Dev	Dev
PROJECT NO. AND NAME 3759 Air Force Support Equipment Management				
(U) A. Project Cost Breakdown (\$ in Thousands)				
	FY 1995	FY 1996	FY 1997	
 (U) Develop and maintain ATS Master Plan (U) Develop and maintain ATS database (U) Program management support (U) Total 	164 243 64 471	0	0	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands): Not Applicable.	housands): N	ot Applicable.		
	Page 8 01	Page 8 of 12 Pages		Exhibit R-3
	040	,		

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION S	HEET (R	-2 Exhil	oit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	nent	PE NI 060	PE NUMBER AND TITLE 0604704F Common Support Equip Dev	TITLE Sommon	Support	Equip De	<u>,</u>		
PROJECT NO. AND NAME 3852 60K Pound Capacity Aircraft Transporter Loader	j.								
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3852 60K Pound Capacity Aircraft Transporter Loader	608	1,118	0	0	0	0	0	0	41,877
(U) A. Mission Description and Budget Item Justification Project #3852, 60,000 (60K) Pound Capacity Aircraft Transporter Loader: This project will develop the 60K loader to fulfill the requirement of Air Mobility Command's (AMC) Operational Requirements Document (ORD) 002-89-1. The project provides a single, unique loader to on/off load various aircraft like the C-17, C-5, C-141, C-130, C-27, KC-10, and Civil Reserve Air Fleet (CRAF) aircraft; while combining the capabilities of the 40K, wide-body elevator, and lower-lobe loaders. The 60K loader will be driven on/off of the C-17, C-5, and C-141 aircraft without shoring. The 60K loader will also be capable of meeting the US Army's requirement to move/load a type V airdrop platform weighing a full 60,000 pounds. It will be significantly more reliable with a 100 hours mean time between failure (MTBF) versus the 40K loader's 18 hours MTBF. A major reduction in deployment preparation times will be achieved; from 30 man-hours to 3 man-hours.	(ORD) 002-oad (ORD) 002-oad (CRAF), C-5, and C-ing a full 60 or reduction i	der: This pr 89-1. The p aircraft; wh 141 aircraft ,000 pounds	oject will de roject provici ile combinin without shor i. It will be s nt preparatio	velop the 60] les a single, g the capabi ring. The 60 ignificantly n times will	K loader to f unique loade lities of the 4 lK loader wi more reliabl be achieved;	ulfill the recar to on/off lack, wide-ball also be case with a 100 from 30 ma	luirement of bad various and various and various and elevator, pable of mee hours mean mehours to 3	Air Mobility aircraft like i, and lower-lating the US in time betwee 3 man-hours.	/ the C-17, obe Army's
(U) FY 1995 (\$\\$\) in Thousands): - (U) \$25 Materials and labor for ECO testing on - (U) \$583 Provided program management support - (U) \$608 Total	on prototype loaders oort	loaders							
 (U) FY 1996 (\$\frac{1}{5}\$ in Thousands): (U) \$\frac{5}{5}\$40 Provide technical support for the Initial Operational Test and Evaluation (IOT&E) (U) \$80 Research ECPs (U) \$498 Provide program management support (U) \$1,118 Total 	iial Operation rt	nal Test and	Evaluation ((10T&E)					
(U) FY 1997 (\$ in Thousands): Not Applicable.									

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(U) B. Program Change Summary (\$\sepsilon\$ in Thousands)



RDT&E BUDGET ITEM JUST	TIFICATIO	TIFICATION SHEET (R-2 Exhibit)	T (R-2	Exhibi	t)	Q.	рате Маг о	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	nt	PE NUMBER AND TITLE 0604704F Com	R AND TITL	E nmon Sı	upport E	STITLE Common Support Equip Dev		
PROJECT NO. AND NAME 3852 60K Pound Capacity Aircraft Transporter Loader		:						
	FY 1995 608 608	FY 1996 1,020		FY 1997 514	Total Cost 1,628 608	- +1 × ×		
(U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram		-23 -17 -9	9 7 3	6-	-26 -17 -9	27.2		
 d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/President's Budget 	809	+152	2 8	-511 0	-359 1,726			
(U) Change Summary Explanation: Funding: This project and associated funding has been to	ransferred/rea	ligned to PE 0)401214F,	Air Cargo	Materiel Ha	ndling (463-	transferred/realigned to PE 0401214F, Air Cargo Materiel Handling (463-L.) beginning in FY1997.	in FY1997.
Schedule: No impact to the program.								
Technical: No impact to the program.								
(U) C. Other Program Funding Summary (\$\sums\$ in Thousands)								
(U) Appropriation: Other Procurement, AF 29,475	FY 1996 42,336	FY 1997 FY 40,296 .	FY 1998 1	FY 1999 59,660	FY 2000 60,562	FY 2001 31,652	To Compl 0	Total <u>Cost</u> TBD
(U) D. Schedule Profile								
	$P_{\mathcal{C}}$	Page 10 of 12 Pages	ages				Exhibit R-2	
		•						

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604704F Common Support Equip Dev	
PROJECT NO. AND NAME 3852 60K Pound Capacity Aircraft Transporter Loader		
(U) Begin LRIP Delivery (U) Start 10T&E (U) Complete 10T&E (U) Milestone III (U) 10C	FY 1996 2 3 4 1 2 3 4 X X X X X X X X X X X X X X X	
Pagi	Page 11 of 12 Pages	Exhibit R-2





RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	T COST BREAK	(DOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604704F Com	PE NUMBER AND TITLE 0604704F Common Support Equip Dev	ip Dev
PROJECT NO. AND NAME 3852 60K Pound Capacity Aircraft Transporter Loader			
(U) A. Project Cost Breakdown (\$ in Thousands)			
FY 1995	995 FY 1996	FY 1997	
(U) ECO testing	25		
n ECPs management support	583 498		
(U) IOT&E (U) Total	040 1,118	0	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands): Not Applicable.	sands): Not Applicable.		
	Page 12 of 12 Pages		Exhibit R-3

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March 1996 DATE 0604706F Life Support System RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 5 - Engineering and Manufacturing Development **BUDGET ACTIVIT**

	EV 400F	EV 4006	EV 4007	7.7	77 4000	0000	7000	24 620	V T
COST (\$ In Thousands)	Actual	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Complete	Total Cost
Total Program Element (PE) Cost	4,868	3,809	4,363	3,756	3,854	3,876	3,999	Continuing	TBD
3111 Aircraft Mishap Prevention Program	169	0	0	0	0	0	0	0	15,617
3812 COMBAT EDGE	551	435	0	0	0	0	0	0	15,213
412A Life Support Systems	4,148	3,374	4,363	3,756	3,854	3,876	3,999	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

This program element is devoted to Engineering and Manufacturing Development (EMD) of aircrew life support equipment. This program element is managed from passengers, and ground support personnel to operate safely in combat and training environments. Equipment developed under this program are generally classified system to reduce loss of aircrew lives and aircraft due to human factors. Project 3812 develops a pressure breathing anti-Gravity (G) system for F-15 and F-16 crew as operational environment life support systems, escape and descent systems, and survival and recovery systems. Project 3111 develops a management information members to help reduce the likelihood of G-induced loss of consciousness incidents and increase pilot endurance under high-G combat conditions. The majority of subsystems. They include the following: flight clothing, flight helmets, oxygen breathing equipment for aviators, anti-G coveralls, survival radios, night vision management for the development, acquisition, production, deployment, and support of aircrew protective equipment. The aircraft subsystems enable aircrews, pre-concept to disposal under the Integrated Weapon System Management (IWSM) single manager concept. The Life Support program provides consolidated the equipment has been developed through the continuing core project, Project 412A. This project provides centralized management of life support items and devices, active/passive noise reduction devices, parachute releases and aircraft ejection seats.

(U) Acquisition Strategy:

Acquisition strategy is incorporated at the project level.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHE	EET (R-2 E	Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Fnoineering and Manufacturing Development	PE NUM 0604	PE NUMBER AND TITLE 0604706F Life	TITLE Life Support System	
(U) B. Program Change Summary (\$ in Thousands)				
FY 1995	FY 1996	FY 1997	Total Cost	
(U) Previous President's Budget (PB) 5,058 (U) Appropriated Value	4,055 4,055	3,983	ТВD	
(U) Adjustments to Appropriated Value a. Congressional General Reductions b. Omnibus and Other Above Threshold	-98 -43			
Reprogramming c. Small Business Innovative Research (SBIR) -94	-85	380		
(U) Current Budget Submit/President's Budget 4,868	3,809	4,363	TBD	
(U) Change Summary Explanation: Funding: Changes since last President's Budget are due to congressi Gravity Suit (ATAGS).	onal reductic	ons. Increase ir	1 FY97 is due to a new start pr	due to congressional reductions. Increase in FY97 is due to a new start program, Advanced Technology Anti-
Schedule: Incorporated at the Project Level				
Technical: No Changes				
(U) C. Other Program Funding Summary (\$ in Thousands) Not Applicable	ible			

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(U) D. Schedule Profile Incorporated at the Project level

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	FION SE	HEET (F	R-2 Exhi	oit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	nent	PE NU 060	PE NUMBER AND TITLE 0604706F Life	PE NUMBER AND TITLE OCCUPANT System	ort Syste	E E			
PROJECT NO. AND NAME 3111 Aircraft Mishap Prevention Program	:	:							
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3111 Aircraft Mishap Prevention Program	169	0	0	0	0	0	0	0	15,617
(U) A. <u>Mission Description and Budget Item Justification</u> Project 3111 developed a management information system to reduce loss of aircrew lives and aircraft due to human factors. This is a centralized system for the Air Force Safety Agency (AFSA) to analyze the human factor elements in aircraft mishaps. The results will assist the Air Force in the reduction of aircraft mishaps and the loss of human life. The system was delivered to AFSA at the end of FY94, completing the work under this project. The prime contractor for AMPP was ETA Technologies Corp. Acquisition was through Firm Fixed Price/Fixed Incentive contract.	to reduce los elements in a lat the end o Price/Fixed I	ss of aircrew aircraft mish f FY94, com ncentive con	lives and a aps. The re pleting the tract.	uircraft due to esults will as; work under '	human fact sist the Air I this project.	ors. This is torce in the The prime	a centralize reduction of contractor fo	d system for aircraft misl r AMPP wa	the Air naps and s ETA
(U) FY 1995 - (U) \$169 Provided program support to AFSA for initial AMPP operations - (U) \$169 Total	for initial AN	IPP operatio	us						
(U) FY 1996 Not Applicable									
(U) $\overline{\text{FY } 1997}$ Not Applicable									
(U) B. Program Change Summary (§ in Thousands)									, .
(U) Previous President's Budget (U) Appropriated Value	<u>FY 1995</u>		<u>FY 1996</u> 0	FY 1997 0	Total Cost 16,380	Total <u>Cost</u> 6,380			
(U) Adjustments to Appropriated Value a. Below Threshold Reprogramming (U) Current Budget Submit/President's Budget	169	6 6	0	0	15,617	17			
(U) Change Summary Explanation: Funding: No Change		Page 3 of 13 Pages	3 Pages			:	Exhibit R-2	-2	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DAIE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604706F Life Support System	
PROJECT NO. AND NAME 3111 Aircraft Mishap Prevention Program		
Schedule: No Changes		
Technical: No Changes		
(U) C. Other Program Funding Summary (S in Thousands) Not Applicable		
(U) D. Schedule Profile		
$\frac{\text{FY 1995}}{1 2 3 4 1}$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
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<u> </u>	RDT&E BUDGET ITEM JUS	TIFICA	TIFICATION SHEET (R-2 Exhibit)	HEET (F	8-2 Exhi	lbit)		DATE	March 1996	9
BUDGET ACTIVITY 5 - Engineering a	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ent	PE N 06(PE NUMBER AND TITLE 0604706F Life	TITLE Life Supp	PE NUMBER AND TITLE O604706F Life Support System	me			
PROJECT NO. AND NAME 3812 COMBAT EDGE	3E									
	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3812 COMBAT EDGE		551	435	0	0	0	0	0	0	15,213
(U) A. <u>Mission Descrit</u> This project develong Design Anti-Gravi number of G-inducan upper torso couregulator, and a mprice contract.	A. <u>Mission Description and Budget Item Justification</u> This project develops and fields a positive pressure breathing anti-G system for F-15 and F-16 crew members, called the <u>COMB</u> ined <u>Advanced Technology Enhance Design Anti-Gravity Ensemble (COMBAT EDGE)</u> . This system is designed to reduce the cumulative effects of G-induced stress and fatigue and thus reduce the number of G-induced Loss Of Consciousness (G-LOC) incidents. The system supplements the current anti-G suit garment with the additional following equipment: an upper torso counter pressure vest, a tensioning bladder modification kit incorporated into the current HGU-55/P helmet, a new oxygen mask, a modified oxygen regulator, and a modified high-flow anti-G valve. For COMBAT EDGE Gentex Corporation and Carleton Technologies are the prime contractors with firm fixed price contract.	ng anti-G sy system is de idents. The modification MBAT EDC	stem for F-1 signed to rec system supp t kit incorpo JE Gentex C	.5 and F-16 luce the cun dements the rated into th orporation a	crew memb mlative effe current ant e current Ho	ers, called th cts of G-indu i-G suit garn GU-55/P hel r Technologi	te <u>COMB</u> ine aced stress a nent with the met, a new c	g anti-G system for F-15 and F-16 crew members, called the COMBined Advanced Technology Enhanced stem is designed to reduce the cumulative effects of G-induced stress and fatigue and thus reduce the lents. The system supplements the current anti-G suit garment with the additional following equipment: nodification kit incorporated into the current HGU-55/P helmet, a new oxygen mask, a modified oxygen IBAT EDGE Gentex Corporation and Carleton Technologies are the prime contractors with firm fixed	Technology of thus reductions of the collowing equals of a modified or with firm	Enhanced e the nipment: oxygen i fixed
(U) <u>FY 1995</u> - (U) \$262 - (U) \$169 - (U) \$120 - (U) \$551	Completed the deployment of COMBAT EDGE to ANG and A Initiated deployment of COMBAT EDGE system to F-15 units Initiated FOT&E on mask improvements (comfort and design) Total	AT EDGE t OGE system ents (comfor	T EDGE to ANG and Active F-16 units GE system to F-15 units nts (comfort and design)	Active F-16 s ()	units					
(U) FY 1996 - (U) \$80 - (U) \$25 - (U) \$25 - (U) \$25 - (U) \$365 - (U) \$305	Conduct manrating on mask improvements (comfort and design) Complete FOT&E on mask improvements Conduct Functional Configuration Audit/Physical Configuration Audit (FCA/PCA) on overall improved mask Deploy COMBAT EDGE to F-15 units Total	ments (comi nents ıdit/Physical ts	fort and desi Configurat	gn) ion Audit (F	CA/PCA) o	n overall im	proved mask	u		
(U) <u>FY 1997</u> - Not Applicable	t Applicable									
			Page 5 of 13 Pages	13 Pages				Exhibit R-2	7	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FICATION	SHEET (R-2 Exhibit		DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE 0604706F Life	PENUMBER AND TITLE 0604706F Life Support System	t System	
PROJECT NO. AND NAME 3812 COMBAT EDGE	:				
(U) B. Program Change Summary (\$ in Thousands)					
				Total	
	FY 1995	FY 1996	FY 1997	Cost	
(U) Previous President's Budget	08 8	00	0	13,906	
(U) Adjustments to Appropriated Value	2 2	>			
(U) Adjustments to Budget Years since FY95 PB	551	435	0	14.812	
(U) Cuiteni Duagei Suominy restacin s Duagei			,		
(U) Change Summary Explanation: Funding: FY95 Below Threshold Reprogramming was to initiate the deployment of COMBAT EDGE to F-16 units. FY96 budget year was increased to complete Follow-On Test and Evaluation (FOT&E) on mask improvements and to complete the deployment of COMBAT EDGE to F-15 units.	nitiate the deple	oyment of COM complete the dep	BAT EDGE to Failoyment of COM	-16 units. FY96 bu IBAT EDGE to F-1	dget year was increased to complete 5 units.
Schedule: Integration tests on mask improvements (comfort and design) moved from FY95 to the first quarter of FY96 due to defective test items delivered by the contractor for FOT&E on the concept 1 mask improvements. The initiation in the deployment of COMBAT EDGE to F-15 units was rescheduled to begin in the first quarter of 1996.	t and design) n ts. The initiati	noved from FY9 on in the deploy	5 to the first qual ment of COMBA	rter of FY96 due to T EDGE to F-15 m	defective test items delivered by the nits was rescheduled to begin in the
Technical: No Changes					
(U) C. Other Program Funding Summary (\$ in Thousands) - Not Applicable	Vot Applicable				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE O604706F Life Support System	
PROJECT NO. AND NAME 3812 COMBAT EDGE		
(U) D. Schedule Profile		
(U) - Completed F-16 depolyment X (U) - Initiate F-15 depolyment (U) - Initiate F-15 deployment (U) - Integration tests on mask improvements (comfort and hang) (U) - Complete F-15 deployment (U) - Complete FOT&E on mask improvements (U) - Complete FOT&E on mask improvements (U) - Conduct Functional Configuration Audit on overall improved mask	1 2 3 4 1 EY 1997 X X X X X X X X X X X X X X X X X X	
$P\epsilon$	Page 7 of 13 Pages	Exhibit R-2
	951	

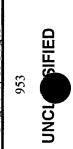
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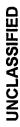


RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	ION SF	HEET (R	-2 Exhit	ojt)		DATE M	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ent	PE NC 060	PE NUMBER AND TITLE 0604706F Life	PENUMBER AND TITLE OCCUPATION SYSTEM	ort Syste	E			
PROJECT NO. AND NAME 412A Life Support Systems									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
412A Life Support Systems	4,148	3,374	4,363	3,756	3,854	3,876	3,999	Continuing	TBD
(U) A. Mission Description and Budget Item Justification This project provides for Engineering, Manufacturing, and Development (EMD) of life support equipment and subsystems to satisfy operational command requirements for improved life support equipment. This project also maximizes life support items and subsystems such as the following: flight clothing, flight requirements for improved life support equipment. This project also maximizes life support includes tasks to assess deficiencies of currently fielded equipment. It also aids in transitions of new and aircraft ejection seats. Program management support includes tasks to assess deficiencies of currently fielded equipment. It also aids in transitions of new technology into EMD and to support all current life support projects. Life Support Systems top three major contractors are ITT Electro-Optical Products Division, Bose Corporation, and Conax Florida Corp. Life Support efforts result from full and open competition among qualified vendors to select a single primary source for EMD and follow-on production.	nd Development (EMD) of life support equipment and subsystems to satisfy operational command project also maximizes life support items and subsystems such as the following: flight clothing, flight is coveralls, survival radios, night vision devices, active/passive noise reduction devices, parachute releases, t includes tasks to assess deficiencies of currently fielded equipment. It also aids in transitions of new ort projects. Life Support Systems top three major contractors are ITT Electro-Optical Products Division, t efforts result from full and open competition among qualified vendors to select a single primary source fo	nt (EMD) of aximizes lif rvival radios ss to assess c life Support from full an	f life support e support ite i, night visio deficiencies Systems top nd open com	t equipment cans and subs on devices, ac of currently to three major	and subsyste ystems such tive/passive ielded equip contractors ong qualified	ms to satisfy as the follov noise reduc ment. It als are ITT Ele I vendors to	y operational wing: flight tion devices, so aids in tra ctro-Optical select a sing	command clothing, flight parachute remisitions of no Products Directions of the Products Directions of the primary setting the	ght eleases, ew vision, ource for
(U) FY 1995 Received Night Vision System (NVS) Developmental Testing and Evaluation (DT&E) units (U) \$2,975 Received Night Vision System (NVS) Developmental Testing and Evaluation (DT&E) units (U) \$594 Initiated NVS government conducted DT&E (U) NSP Provided technical support for Universal Water Activated Release System (UWARS) production contract. (U) NSP Completed UWARS government DT&E Completed UWARS Initial Operational Test & Evaluation (IOT&E). (Funded by PE64609F, R&M Maturation/Tech Insertion Program) (U) \$579 Program Management Support and Travel (U) \$4,148 Total	S) Developme ed DT&E ersal Water A NR) governm T&E onal Test & E Travel	ental Testing ctivated Relent DT&E. valuation (10	g and Evalua lease System (\$643K Aii OT&E). (Fu	ntion (DT&E n (UWARS) 1 r Force Speci anded by PE6) units production c al Operation 54609F, R&	ontract. 1s Commano M Maturatic	d (AFSOC) f on/Tech Inse	unded) rtion Progra	Œ

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RDT&E B	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	V SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development		PENUMBER AND TITLE 0604706F Life Support System	
PROJECT NO. AND NAME 412A Life Support Systems			
(U) FY 1996 - (U) \$1,972 Complete Design (DT&E/OT&E) - (U) \$1,052 Perform NVS Complete ANR (DT&E) - (U) NSP Complete ANR (D) NSP Start/Support (D) NSP Start/Support (D) NSP Start/Support (D) \$3374 Total	Complete Design, then build initial test assets for combined NVS Developmental Test & Eval (DT&E/OT&E) Perform NVS Contractor-conducted qualification testing Complete ANR government DT&E and IOT&E. (AFSOC funded) Deliver/Support ANR production units. (Production \$1,482K-AFSOC funded; Support-NSP) Start/Support UWARS production deliveries. (Support-NSP, Production funded under PE 27! Program Management Support and Travel	Complete Design, then build initial test assets for combined NVS Developmental Test & Evaluation Operational Test and Evaluation (DT&E/OT&E) Perform NVS Contractor-conducted qualification testing Complete ANR government DT&E and IOT&E. (AFSOC funded) Deliver/Support ANR production units. (Production \$1,482K-AFSOC funded; Support-NSP) Start/Support UWARS production deliveries. (Support-NSP, Production funded under PE 27596F, Base Ops - Tactical Air Forces) Program Management Support and Travel	nal Test and Evaluation - Tactical Air Forces)
(U) FY 1997 - (U) \$1,712 Receive fi - (U) \$1,058 Perform C - (U) NSP Complete - (U) NSP Complete - (U) NSP Continue - (U) \$600 Initiate th - (U) \$567 Program P - (U) \$54363 Total	Receive final test assets for NVS Developmental / Operational Test and Evaluation (DT&E / OTE) Complete NVS Contractor-conducted qualification testing Perform Government-conducted NVS Combined DT&E / OT&E Complete/Support ANR production deliveries. (Production - AFSOC funded; Support-NSP) Continue UWARS production deliveries Initiate the Advanced Technology Concept Anti-Gravity Suit (ATAGS) project Program Management Support and travel	ntional Test and Evaluation (DT&E / OTE) ng / OT&E ion - AFSOC funded; Support-NSP) Suit (ATAGS) project	
·	Page	Page 9 of 13 Pages	Exhibit R-2





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (I	۲-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604706F Life	PE NUMBER AND TITLE OCO4706F Life Support System	System	
PROJECT NO. AND NAME 412A Life Support Systems				
(U) B. Program Change Summary (\$ in Thousands)				
			Total	
FY 1995	FY 1996	FY 1997	Cost	
(U) Previous President's Budget	3,600	3,983	TBD	
(U) Appropriated Value 4,038	3,600			
(U) Adjustments to Appropriated Value	•			
a. Congressional General Reduction	86-			
b. Omnibus & Other Above Threshold	-43			
Reprogramming	•			
	çş	6		
Adjustments to Budget Years since FY95 PB		380		
(U) Current Budget Submit/President's Budget 4,148	3,3/4	4,363	IBD	
(U) Change Summary Explanation: Funding: FY96 and FY97 NVS program re-structure incorporated an in	improved NVS opti	al design and com	bined DT&E with	incorporated an improved NVS optical design and combined DT&E with OT&E, thereby reducing testing Canability (IOC)
תוסוס מוות זוומוזוומווו פרויים והאינים אמיוים אינים פרויוומוווים ווומ פרויים	•			

Schedule: Re-design of NVS optics resulted in later delivery of test assets; however, combination of DT&E and OT&E cut test costs and test schedule, preserving net schedule for IOC.

Technical: NVS optical design incorporates breakout technology and is not driven by any failure in the previous design.

(U) C. Other Program Funding Summary (\$ in Thousands) - Not Applicable

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ET ITE	M JUST	FICAT	NO NO	SHEET (R-2 Ex	hibit)		_	DATE March 1996	٥
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ing De	velopmen	īt	원 0	PE NUMBER AND TITLE 0604706F Life Support System	STITLE Life Sul	pport	System			
PROJECT NO. AND NAME 412A Life Support Systems											
(U) D. Schedule Profile											
	-	$\frac{\text{FY } 1995}{2}$	4	-	$\frac{\text{FY } 1996}{2}$	4	•	$\frac{\text{FY } 1997}{2}$	4		
(U) Completed Active Noise Reduction(ANR) Requirements Definitions(U) Government Assessment of NVS	× ×			•			1				
(U) Completed Universal Water Activated Release System Qualification Testing (U) Complete UWARS Initial Operational Testing and Evaluation (IOT&E) (U) Complete UWARS Government DT&F	×	×	×								
(U) Complete ANR DT&E and IOT&E (U) Receive NVS DT&E / OT&E Units (U) Perform NVS Contractor Qual Test (U) Complete ANR Deliveries (U) Start UWARS Production Deliveries (U) Complete Government Conducted					××	×	×	×			
			I	age 11	Page 11 of 13 Pages					Exhibit R-2	

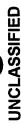




RD	RDT&E PROGRAM ELEMENT/	RAM EL	EMENT/PR	OJECT	COSTE	REAKD	PROJECT COST BREAKDOWN (R-3)	3)	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	a and Manu	facturing	Development		PE NUMBE 060470	PE NUMBER AND TITLE 0604706F Life S	PE NUMBER AND TITLE 0604706F Life Support System	stem			
PROJECT NO. AND NAME 412A Life Support Systems	AME ort Systems										
(U) A. Project Cost Breakdown (\$ in Thousands)	st Breakdown (§ in Thousand	(SI								
				FY 1995		FY 1996	FY 1997				
 (U) Contracts (U) Technical Engineering Support (U) Travel (U) Government Testing (U) Program Management Support (U) Total 	ineering Support esting gement Support			2,975 461 113 20 579 4,148	975 461 113 20 579 .148	2,455 460 109 0 350 3,374	2,198 454 86 1,058 567 4,363				
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	equisition Histor	y and Plannin	ig Information (S in Thousa	<u>nds)</u>						
Performing Organizations:	nizations:										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office EAC	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations Kaiser C,CPAF	ent Organizations C,CPAF	§ 18 Jan 93	4,831	4,831	4,831	0	0	0	0	4,831	
Electronics ITT Future Award for	C,CPAF	18 Jan 93 Oct 96	15,397 0	15,397 0	6,275 0	2,975 0	2,455 0	1,598	92 800	13,382 1,400	
(ATAGS) Other Previous Contracts			7,623	7,623	7,623	0	0	0	0	7,623	
				£		. 6			n Shibit S. S	ς. C	
				Pe	Page 12 of 13 Pages	ages			EXIIIDIL	2	
					700						

RDT&E PR	RDT&E PROGRAM ELEMENT/P	EMENT/P	ROJECT	COSTE	SREAKD	ROJECT COST BREAKDOWN (R-3)	3)	DATE	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	anufacturing	Developmen	ıt.	РЕ NUMBE 06047(PE NUMBER AND TITLE OG04706F Life S	PE NUMBER AND TITLE OG04706F Life Support System	stem		
PROJECT NO. AND NAME 412A Life Support Systems	SI								
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle	rpe Award or 3 Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office EAC	Total Prior to <u>FY 1995</u>	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Support and Management Organizations Program Management Support Travel System Eng Tech Asst (SETA)	mizations	1,137 929 3,239	1,137 929 3,239	1,226 389 1,995	579 113 461	350 109 460	567 86 454	Cont. Cont.	TBD CBT CBT
Test and Evaluation Organizations Air Force Flight Test Center	<u>ons</u>	4,082	4,082	2,858	20	0	1,058	Cont.	TBD
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	ient	27,851 5,305 4,082	27,851 5,305 4,082	18,729 3,610 2,858	2,975 1,153 20	2,455 919 0	2,198 1,107 1,058	79 Cont.	26,853 TBD TBD
Total Project		37,238	37,238	25,197	4,148	3,374	4,363	Cont.	TBD
		<u>.</u>	Pa	Page 13 of 13 Pages	ages			Exhibit R-3	R-3





	RDT&E BUDGET ITEM JUS	ISTIFICATION SHEET (R-2 Exhibit)	FION SE	HEET (R	-2 Exhik	oit)	·	DATE	March 1996	6
BUDG 5 - E	BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	ment	PE NL 060	PE NUMBER AND TITLE 0604708F Civil, Fire, Environmental, Shelter	ITLE ivil, Fire,	Environ	mental, S	Shelter		
	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
	Total Program Element (PE) Cost	3,086	2,598	2,736	2,843	2,922	2,985	3,057	Continuing	Continuing
2054	2054 Aerospace Facilities Engineering Development	999	645	713	737	760	778	795	Continuing	Continuing
2505	2505 Aircraft Firefighting Suppression & Rescue	1,165	1,157	1,125	1,165	1,208	1,238	1,269	Continuing	Continuing
2674	2674 Tactical Shelters	591	152	185	204	193	190	197	Continuing	Continuing
3788	Environmental Quality	999	644	713	737	761	779	796	Continuing	Continuing

(U) A. Mission Description and Budget Item Justification

operational effectiveness, survivability, durability, and longevity of air base pavements, buildings and utilities; the overall objective is to provide an infrastructure that effectively supports the Air Force mission, contributes to high sortie rates, supports forward projection of air power, is less susceptible to damage from enemy actions or natural disasters, and is more rapidly returned to service if damaged. b) Fire Fighting Suppression and Rescue develops new concepts and technology applications communications, medical, and data processing units for the tactical and strategic forces. d) Environmental Quality ensures Air Force compliance with existing laws, This program funds the development, testing and evaluation of materials, equipment and procedures in four separate areas: a) Facilities Engineering improves the environmental program. Environmental work performed under this program element is Engineering and Manufacturing Development because it takes emerging executive orders, and Air Force policies by developing technologies to identify, reduce, and eliminate pollutant sources, identify and dispose of hazardous waste, mobilized and compatible with air, sea and land transport systems. These products will effectively support high mobility aircraft support, command and control, Tactical Shelters is the USAF portion of a tri service effort to develop standardized, low maintenance, survivable shelters and shelter accessories that are easily to increase fire fighting support of combat operations, to improve base recovery after attack capabilities, and to reduce fire risks to personnel and resources. c) conduct remediation, and mitigate the effects wastes and pollutants. This project develops equipment, materials, and processes in support of the Air Force technologies and develops them for Air Force use.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604708F CIVII,	TITLE Civil, Fire, En	PENUMBER AND TITLE OG04708F Civil, Fire, Environmental, Shelter	Shelter
(U) B. Program Change Summary (\$ in Thousands)				
		٠	Total	
	FY 1996	FY 1997	Cost	
(U) Previous President's Budget (96 PB) 3,214 (U) Appropriated Value 3.214	2,737	2,835	Cont	
Adjustment to Budget Years Since FY 96 PB	(96)	(66)		
(U) Adjustments to Appropriated Value a. Undistributed Congressional Reductions b. SBIR	(43)			
3udget Submit/President's Budget	2,598	2,736	Cont	
(U) Change Summary Explanation: Funding: FY 96 and FY 97 programs adjusted for inflation and to cover higher priority requirements.	higher priority re	quirements.		
Schedule: Not Applicable.				
Technical: Not Applicable.				
(U) C. Other Program Funding Summary (§ in Thousands): Not Applicable.	ı.:			

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(U) D. Schedule Profile: Not Applicable.





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICAL	ION S	HEET (R	2 Exhil	oit)		DATE M	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	nent	PE NC 060	PE NUMBER AND TITLE 0604708F CIVIL	STITLE Civil, Fire, Environmental, Shelter	Environ	mental, S	Shelter		
PROJECT NO. AND NAME 2054 Aerospace Facilities Engineering Development									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
2054 Aerospace Facilities Engineering Development	999	645	713	737	760	778	795	Continuing	Continuing
(U) A. <u>Mission Description and Budget Item Justification</u> Develops equipment, materials, and procedures to improve the operational effectiveness of aerospace facilities.	re the operatio	nal effective	eness of aerc	ospace facilit	ies.				
 (U) FY 1995 (\$ in Thousands): (U) \$120 Complete development of new family of environmental control units. (U) \$295 Begin Bare Base Systems requirements analysis. (U) \$160 Begin development of new family of Bare Base shelters. (U) \$90 Begin development of light weight deployable power generation/distribution systems. (U) \$665 Total 	ly of environmental control units. ints analysis. f Bare Base shelters. deployable power generation/disti	iental contro elters. ver generati	ol units. ion/distributi	ion systems.					
 (U) FY 1996 (\$ in Thousands): (U) \$226 Complete Bare Base Systems requirements analysis. (U) \$230 Continue development of new family of Bare Base shelters. (U) \$189 Continue development of light weight deployable power generation/distribution systems. (U) \$645 Total 	ements analysis. y of Bare Base shelters. ht deployable power ge:	is. s shelters. power gene	aration/distri	bution syster	vs.				
 (U) FY 1997 (\$\$\frac{1000000000000000000000000000000000000	y of Bare Base shelters. ht deployable power ge	s shelters. power gene	ration/distri	bution syster	ns.				
(U) B. Program Change Summary (S in Thousands)									
(U) Previous President's Budget	FY 1995 665		FY 1996 663	FY 1997 739	5 OI Q	Total Cost Cont			
		Page 3 of 17 Pages	17 Pages				Exhibit R-2	2-2	
		020	_						

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	IION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604708F CIVII,	DE04708F Civil, Fire, Environmental, Shelter	nental, Shelter
PROJECT NO. AND NAME 2054 Aerospace Facilities Engineering Development			
(I) Announiated Value	FY 1996	Total FY 1997 Cost	11 21
get Years Since FY 95 PB ropriated Value	(18)	(26)	
(U) Current Budget Submit/President's Budget	5 645	713 Cont	ı
(U) Change Summary Explanation: Funding: FY 96 and FY 97 programs adjusted for inflation and to cover higher priority requirements.	over higher priority re	quirements.	
Schedule: Not Applicable			
Technical: Not Applicable.			
(U) C. Other Program Funding Summary (\$ in Thousands): Not Applicable.	able.		

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(U) D. Schedule Profile: Not Applicable.





RDT&E PROGRAM ELEMENT/PROJE	CT COST	PROJECT COST BREAKDOWN (R-3)	OWN (R-3)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUN 0604	PE NUMBER AND TITLE 0604708F CIVII,	ਹ ਸπ∟∈ Civil, Fire, Environmental, Shelter	tal, Shelter
PROJECT NO. AND NAME 2054 Aerospace Facilities Engineering Development		·		
(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u>				
되	FY 1995	FY 1996	FY 1997	
 (U) New Family of Environmental Control Units (U) Bare Base Systems Analysis (U) New Family of Portable Shelters (U) Light Weight Deployable Generator 	120 295 160 90	226 230 189	403 310	
(U) Total	999	645	713	
(U) B. Budget Acquisition History and Planning Information (S in Thousands): Not Applicable.	iousands): Not Applica	t Applicable.		m khinit R-3
	I de c aku I	/ 1 akes		

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TEM JUS	TIFICA	TION SI	TEET (R	R-2 Exhi	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Developm	ent	PE NI 06 0	PE NUMBER AND TITLE 0604708F CIVIL	D TITLE Civil, Fire, Environmental, Shelter	, Environ	mental, S			
PROJECT NO. AND NAME 2505 Aircraft Firefighting Suppression & Rescue	Rescue		:							
COST (\$ In Thousands)		FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
2505 Aircraft Firefighting Suppression & Rescue		1,165	1,157	1,125	1,165	1,208	1,238	1,269	Continuing	Continuing
(U) A. Mission Description and Budget Item Justification Develops improved fire fighting, suppression and rescue equipment, materials, and methods to increase fire protection readiness, mobility, and effectiveness.	ustification and rescue eq	luipment, m	iaterials, and	methods to	increase fire	protection	readiness, m	obility, and	effectiveness	
 (U) \$\frac{\text{FY 1995 (\\$ in Thousands)}}{\text{Award EMD contract for DFPS and begin support of production contract.}} (U) \$\frac{\text{\$530}}{\text{\$230}}\$ Award EMD contract for DFPS and begin support of production contract.} (U) \$\frac{\text{\$330}}{\text{\$530}}\$ Continue commercial technology exploitation.} (U) \$\frac{\text{\$45}}{\text{\$30}}\$ Begin development of fire fighter emergency response ensemble with body cooling system.} (U) \$\frac{\text{\$30}}{\text{\$51,165}}\$ Total 	or DFPS and be welopment for schnology explire fighter eme of SCBA.	egin suppor FMTS. De loitation. rgency resp	oort of production contract. Develop FMTS for structural, C-747, C-17 aircraft and HAZMAT I and II. ssponse ensemble with body cooling system.	on contract. S for structus ole with bod	ral, C-747, C y cooling sys	2-17 aircraft stem.	and HAZM.	AT I and II.		
 (U) \$\frac{\text{FY 1996 (\\$ in Thousands)}}{\text{Continue courseware development of FMTS.}}\$ (U) \$330 (U) \$334 (U) \$334 (D) \$334 (D) \$343 (E) Continue development of fire fighter emergency response ensemble with body cooling system. (U) \$50 (U) \$100 (U) \$100 (U) \$1,157 (U) \$1,157 	velopment of chnology expl of fire fighter (nvironmentall ement of DFP	FMTS. Coloritation. smergency ty acceptable S.	MTS. Completes courseware for HA itation. nergency response ensemble with bod acceptable AFFF/Halon replacement.	seware for F emble with t n replaceme	IAZMAT III oody cooling ent.	, IV, and V. system.				
			Page 6 of 17 Pages	17 Pages	į			Exhibit R-2	7	







RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ION SHEET (F	R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 5 - Fnoineering and Manufacturing Development	PE NUMBER AND TITLE 0604708F CIVIL	D TITLE Civil, Fire, Environmental, Shelter	vironmental,	Shelter
PROJECT NO. AND NAME 2505 Aircraft Firefighting Suppression & Rescue				
(U) A. Mission Description and Budget Item Justification Continued				
7 <u>Y 1997 (\$ in Tl</u> \$330 \$250	moneo oncomblo with	hody cooling syste	· •	
(U) \$1.125 Continue development of any international response cases with conjugation of the right of the continue development of environmentally acceptable AFFF/Halon replacement. (U) \$1,125 Continue follow-on improvement of DFPS. (U) \$1,125 Total	pouse ensemble with	cement.		
(U) B. <u>Program Change Summary (\$ in Thousands)</u>			Total	
(U) Previous President's Budget 1,165	FY 1996 1,189	FY 1997 1,165	Cont	
(U) Appropriated Value (U) Adjustments to Budget Years Since FY 95 PB (U) Adjustments to Appropriated Value a. Undistributed Congressional Reductions	(32)	(40)		
(U) Current Budget Submit/President's Budget 1,165	1,157	1,125	Cont	
(U) Change Summary Explanation: Funding: FY 96 and FY 97 programs adjusted for inflation and to cover higher priority requirements.	wer higher priority re	quirements.		
Schedule: Not Applicable.				
Technical: Not Applicable.				
(U) C. Other Program Funding Summary (\$ in Thousands): Not Applicable.	able.			
	Page 7 of 17 Pages			Exhibit R-2

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604708F Civil, Fire, Environmental, Shelter	
PROJECT NO. AND NAME 2505 Aircraft Firefighting Suppression & Rescue		
(U) D. Schedule Profile: Not Applicable.		
	Page 8 of 17 Pages	Exhibit R-2

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ECT COS	T BREAK	JOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NI 060	PE NUMBER AND TITLE 0604708F CIVIL	ס דודוב Civil, Fire, Environmental, Shelter	, Shelter
PROJECT NO. AND NAME 2505 Aircraft Firefighting Suppression & Rescue				
(U) A. Project Cost Breakdown (\$\sin\$ in Thousands)				
	FY 1995	FY 1996	FY 1997	
(U) Deployable Fire Protection System	530	100	100	
(U) Self Contained Breathing Apparatus (U) Firefighter Multimedia Training System	30 230	330	330	
(U) Commercial Technology Exploitation	330	334	250	
(U) Emergency Kesponse Ensemble (U) Halon/AFFF Agent Replacement	}	50	195	
(U) Total	1,165	1,157	1,125	
(U) B. Budget Acquisition History and Planning Information (S in Thousands): Not Applicable.	Housands): N	sands): Not Applicable.		ָּהָ מַּ
	r uge y of	1/ 1 ages		

RD	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	-2 Exhil	bit)		DATE N	March 1996	60
BUDGET ACTIVITY 5 - Engineering an	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ent	PE NI 000	PE NUMBER AND TITLE 0604708F CIVIL	IITLE Sivil, Fire,	, Environ	ਹ ਸ⊓∟ Civil, Fire, Environmental, Shelter	Shelter		
PROJECT NO. AND NAME 2674 Tactical Shelters	Şı						:			
J	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
2674 Tactical Shelters		591	152	185	204	193	190	197	Continuing	Continuing
(U) A. Mission Descrip Provides reliable, co: Program, and provid	 (U) A. <u>Mission Description and Budget Item Justification</u> Provides reliable, cost effective tactical shelters required to ensure the success of Air Force missions, provides Air Force membership in the DOD Tactical Shelter Program, and provides technology insertion for shelter development. 	ensure the s elopment.	uccess of Ai	ir Force miss	sions, provid	les Air Force	e membershi	p in the DOI	D Tactical SI	ıelter
(U) \$260 Complete (U) \$331 Attend JO (U) \$391 travel, equ	<u>Thousands):</u> Complete EMD phase of R-134a environmental control unit upgrade to non-ozone depleting chemicals. Attend JOCOTAS and ASTM meetings. Coordinate with other Air Force agencies. Fund ESC personnel, contractor support, MITRE support, travel, equipment, supplies, and overhead. Total	ronmental c gs. Coordin lead.	ontrol unit v iate with oth	pgrade to no er Air Force	on-ozone dep agencies. F	pleting chem tund ESC pe	nicals. ersonnel, con	ıtractor supp	ort, MITRE	support,
(U) \$152 Attend JO equipment (U) \$152 Attend JO equipment (U) \$152 Total	<u>Thousands</u>): Attend JOCOTAS and ASTM meetings. equipment, supplies, and overhead. Total		ate with oth	er Air Force	agencies. F	und ESC pe	Coordinate with other Air Force agencies. Fund ESC personnel, contractor support travel,	ıtractor supp	ort travel,	
(U) \$185 Attend JO equipment (U) \$185 Total	<u>housands</u>): Attend JOCOTAS and ASTM meetings. equipment, supplies, and overhead. Total	gs. Coordin	ate with oth	er Air Force	agencies .]	Fund ESC p	Coordinate with other Air Force agencies . Fund ESC personnel, contractor support travel,	ntractor supp	oort travel,	
			Page 10 of 17 Pages	17 Pages				Exhibit R-2	-5	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (F	(-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604708F CIVIL	TITLE Sivil, Fire, En	PENUMBER AND TITLE OCCUPION OF THE Shelter OCCUPION OCCUP	Shelter
PROJECT NO. AND NAME 2674 Tactical Shelters	,			
(U) B. Program Change Summary (\$ in Thousands)				
			Total	
EY 1	FY 1996	FY 1997	Cost	
(U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Budget Years Since FY 95 PB	(28)	6	}	
(U) Adjustments to Appropriated Value a. Undistributed Congressional Reductions b. SBIR (U) Current Budget Submit/President's Budget	(43) 152	185	Cont	
(U) Change Summary Explanation: Funding: FY 96 and FY 97 programs adjusted for inflation and to cover higher priority requirements.	higher priority re	quirements.		
Schedule: Not Applicable.				
Technical: Not Applicable.				
(U) C. Other Program Funding Summary (\$ in Thousands): Not Applicable.				

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(U) D. Schedule Profile: Not Applicable.

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	DJECT CO	ST BREAK	DOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE	PE NUMBER AND TITLE 0604708F CIVIL	PE NUMBER AND TITLE 0604708F Civil, Fire, Environmental, Shelter	
PROJECT NO. AND NAME 2674 Tactical Shelters				
(U) A. Project Cost Breakdown (\$ in Thousands)				
	FY 1995	FY 1996	FY 1997	
	260			
(U) Shelters 2000 Program (U) Engineering Support	331	152	185	
(U) Total	591	152	185	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands): Not Applicable.	n Thousands):	Not Applicable.		
	Page 12 o	Page 12 of 17 Pages		Exhibit R-3

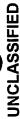




RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICAL	IS NOI	EET (R	-2 Exhit	oit)		DATE N	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	nent	PE NU 060	PE NUMBER AND TITLE 0604708F CIVIL	TTLE IVII, Fire,	Environ	ס דודוב Civil, Fire, Environmental, Shelter	Shelter		
PROJECT NO. AND NAME 3788 Environmental Quality									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3788 Environmental Quality	992	644	713	737	761	779	796	Continuing	Continuing
(U) A. <u>Mission Description and Budget Item Justification</u> Develops equipment, materials, and processes in support of the Air Force environmental program including pollution prevention, compliance, restoration, and conservation. The focus is on technologies to reduce and eliminate pollutant sources, provide cost effective waste disposal, conduct remediation, and mitigate the effects of wastes and pollutants.	of the Air For eliminate pol	ce environm lutant source	ental progra	ım including ost effective	g pollution p waste dispo	revention, co sal, conduct	ompliance, r remediation	estoration, a , and mitiga	nd e the
(U) FY 1995 (\$ in Thousands): (U) \$200 Compliance - Highly Energetic Material Program. – (U) Review and comment on documentation to provide at completion of Lab transition.	erial Program mentation to	provide at c	ompletion o	f Lab transit	ion.				
 (U) Participate in pilot demonstration. (U) Prepare to execute program pending full funding of effort (U) Review and develop program proposals to meet Air Force needs identified in the Air Force ESOH Technology Needs Survey. (U) Prepare for technology transition and program execution. 	tion. ending full funding of effort proposals to meet Air Force ion and program execution.	nding of effe neet Air For am executio	ort :ce needs ide m.	ntified in th	e Air Force	ESOH Tech	nology Need	ls Survey.	
(U) \$132 Remediation - SCAPS. – (U) Continue to manage ARPA program. – (U) Represent AF at Tri-Service meetings. – (D) Inform AF nears of availability of services and canabilities.	rogram. neetings. v of services	nd canabili	es :						
Pollution Prevention. (U) \$333 Pollution Prevention. (U) Define scope and effort involved in supporting AF effort to reduce the use of ODC. (U) Develop and submit program proposals to NDCEE and ESTCP. (U) Continue execution of replacement identification program for engines at NDCEE.	ved in supporting AF effort to reduce the use of ODCs and HAZMATS. proposals to NDCEE and ESTCP. sment identification program for engines at NDCEE.	ing AF effor	rt to reduce (ESTCP.	the use of Ol	DCs and HA IE.	ZMATS.	, xe,		
-(U) Review and develop program proposals to inect. At inect(U) Prepare for technology transition and program execution (U) \$665 Total	proposals to niect Ar needs menuica in Ar ESOLI recinical recus Survey. Iton and program execution.	am executic	on.				÷		
		Page 13 of 17 Pages	17 Pages				Exhibit R-2	2-2	

E	RDT&E BUDGET ITEM JUSTIFICATI	STIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604708F Civil, Fire, Environmental, Shelter	
PROJECT NO. AND NAME 3788 Environmental Quality	IE tal Quality		
(U) A. Mission Desc	(U) A. Mission Description and Budget Item Justification Continued		
(U) \$200 Complianc (U) \$200 - (U) Rev	Compliance - Highly Energetic Material Program. - (U) Review and comment on documentation to provide at completion of lab effort.	ovide at completion of lab effort.	
(U) \$130	 (v) Trepare to execute program promong run runding or error (U) Review and develop program proposals to meet AF needs (U) Prepare for technology transition and program execution. Remediation - SCAPS. 	proming fun funding of chort. proposals to meet AF needs identified in AF ESOH Technology Needs Survey. tion and program execution.	rvey.
6	 (U) Continue to manage ARPA program. (U) Represent AF at Tri-Service meetings. (U) Inform AF users of availability of services and capabilities. 	d capabilities.	
(U) \$314	Follution Prevention. – (U) Define scope and effort involved in supporting – (U) Develop and submit program proposals to ND	Pollution Prevention. – (U) Define scope and effort involved in supporting AF effort to reduce the use of ODCs and HAZMATS. – (U) Develop and submit program proposals to NDCEE and ESTCP.	
(U) \$644	 (U) Continue execution of replacement identification program for engines at NDCEE. (U) Review and develop program proposals to meet AF needs identified in AF ESOH (U) Prepare for technology transition and program execution. Total 	ment identification program for engines at NDCEE. proposals to meet AF needs identified in AF ESOH Technical Needs Survey. ion and program execution.	ey.

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March 1996 Exhibit R-2 Define scope and effort involved in supporting AF effort to reduce the use of EPA 17, NESHAPS and other HAZMATS. Continue to review and develop program proposals to meet AF needs identified in AF ESOH Technology Needs Survey. 0604708F Civil, Fire, Environmental, Shelter DATE Review and develop program proposals to meet AF needs identified in AF ESOH Technical Needs Survey. Review and develop program proposals to meet AF needs identified in AF ESOH Technical Needs Survey. Define scope and effort involved in supporting AF effort to reduce the use of ODCs and HAZMATS. Develop and submit program proposals for DOD Environmental initiatives (funding sources). Develop and submit program proposals for DOD Environmental initiatives (funding sources). Continue to review and comment on documentation to provide at completion of lab efforts. RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) Continue execution of material/process substitution program for engines at NDCEE. Continue execution of material/process substitution program for engines at NDCEE. PE NUMBER AND TITLE RF Heating; work a full scale solvent remediation systems at realistic depths. Page 15 of 17 Pages Inform AF users of availability of services and capabilities. Prepare for technology transition and program execution. Prepare for technology transition and program execution. Compliance - Highly Energetic Material Program. Execute program pending full funding of effort. (U) A. Mission Description and Budget Item Justification Continued 5 - Engineering and Manufacturing Development Represent AF at Tri-Service meetings. Continue to manage ARPA program. Remediation - SCAPS. Pollution Prevention. (U) FY 1997 (\$ in Thousands): 3788 Environmental Quality PROJECT NO. AND NAME -(U) \$713 -(U) \$148 -(U) \$344 -(U) \$221 BUDGET ACTIVITY

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SATION SHEET	(R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604708F CIVIL	PE NUMBER AND TITLE 0604708F Civil, Fire, Environmental, Shelter	vironmental,	Shelter
PROJECT NO. AND NAME 3788 Environmental Quality				
(U) B. <u>Program Change Summary (\$ in Thousands)</u>				
			Total	
Budget	FY 1995 FY 1996 662	FY 1997 739	Cont	
(U) Appropriated Value (U) Adjustments to Budget Years Since FY 96 PB	(18)	(26)		
(U) Current Budget Submit/President's Budget	665 644	713	Cont	
(U) Change Summary Explanation: Funding: FY 96 and FY 97 programs adjusted for inflation.		·		
Schedule: Not Applicable.				
Technical: Not Applicable.				
(U) C. Other Program Funding Summary (\$ in Thousands): Not A	Not Applicable.			
(U) D. <u>Schedule Profile:</u> Not Applicable.				· · · · · · · · · · · · · · · · · · ·

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	JECT COS	T BREAK	OWN (R-3)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NU 060	PE NUMBER AND TITLE 0604708F CIVIL	TITLE Civil, Fire, Environmental, Shelter	al, Shelter
PROJECT NO. AND NAME 3788 Environmental Quality				
(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u>				
	FY 1995	FY 1996	FY 1997	
(U) Compliance	200	200	221 148	
(U) Site Characterization and Analysis Penetrometer System (U) Pollution Prevention	333	314	344	
(U) Total	999	644	713	
(U) B. Budget Acquisition History and Planning Information (S in Thousands): Not Applicable.	Thousands): Not Applica	ot Applicable.		Exhibit R-3
	1 450 x : V	1 / 4 WEND		

March 1996 0604727F Joint Standoff Weapons Systems DATE RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 5 - Engineering and Manufacturing Development 1000 Joint Standoff Weapon PROJECT NO. AND NAME BUDGET ACTIVITY

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
000 Joint Standoff Weapon	54,805	41,448	23,563	16,732	10,857	8,190	0	0	184,150

(U) A. Mission Description and Budget Item Justification

includes the development of Common Munitions BIT (Built-In Test), Reprogramming Equipment (CMBRE) software, a tester for ISOW, Joint Direct Attack Munitions (JDAM), Wind Corrected Munitions Dispenser (WCMD), and future smart weapons. The RDT&E Research Category/Budget Activity is Engineering and Manufacturing defenses. The JSOW launch-and-leave capability will allow several target kills per aircraft sortie. The program provides for development and test of a dispenser design The Joint Standoff Weapon (JSOW) is an air-to-ground weapon designed to attack a variety of targets during day, night, and adverse weather conditions. JSOW will enhance aircraft survivability as compared to current interdiction weapon systems by providing the capability for launch aircraft to standoff outside the range of point for the JSOW/BLU-108 variant which employs a BLU-108/B submunition payload. Integration of the JSOW Baseline weapon (BLU-97 Combined Effects Munition variant) and the JSOW/BLU-108 with the F-16C/D aircraft is also included. Future integration is planned with the B-1B, B-52, and the F-15E. The program also Development - the phase of the program following a successful Milestone II (Acquisition Decision Memorandum dated 26 April 1995)

U) FY 1995

- (U) \$ 10,791 Plan, design and produce test vehicles
 - (U) \$ 1,216 Plan, design and initiate flight testing
- Start development of the Operational Flight Program (OFP) tape and program office flight test support for F-16 8,900
- Design, develop, and test Air Force Mission Support System (AFMSS) module; perform Integrated Logistics System (ILS) tasks; participate in Critical Design Review (CDR) (U) \$ 13,298
 - (U) \$ 4,402 Engineering support, program office support
- (U) \$ 5,000 Plan, design and produce MIL-STD-1760 carriage store
- (U) \$ 501 Conduct Survivability Analysis
- · Design BLU-108 dispenser; perform weapon pattern optimization; conduct Preliminary Design Review 10,698
 - (U) \$ 54,805 Tota

Page 1 of 6 Pages





March 1996 Exhibit R-2 0604727F Joint Standoff Weapons Systems - Conduct JSOW/BLU-108 CDR; plan, design and conduct flight testing to qualify the BLU-108 dispenser . Common Munitions BIT (Built-In Test) Reprogramming Equipment (CMBRE) software development - Complete development and test AFMSS module; perform Integrated Logistics Support (ILS) tasks RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) - Plan, design and produce Initial Operational Test & Evaluation (IOT&E) test vehicles PE NUMBER AND TITLE Page 2 of 6 Pages · Plan and conduct Developmental Test & Evaluation flight testing - Design, develop, and test AFMSS module; perform ILS tasks Continue flight testing to qualify BLU-108 dispenser · Complete Develpment of the OFP tape for the F-16. Engineering support, program office support - Engineering support, program office support Smart Rack integration and flight testing 5 - Engineering and Manufacturing Development - Plan, design and conduct flight testing - Plan, design and produce test vehicles - Complete Survivability Analysis 1000 Joint Standoff Weapon (U) \$ 11,072 (U) \$ 30 6,334 6,025 2,562 7,936 2,599 588 (U) \$ 15,394 5,230 3,388 1,366 2,000 (U) \$ 41,448 PROJECT NO. AND NAME FY 1996 BUDGET ACTIVITY

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TEM JUSTII	FICAT	ION SH	EET (R	-2 Exhil	oit)		рате Ма	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Jevelopment		PE NU 060	PE NUMBER AND TITLE 0604727F Join	пге oint Stan	doff Wea	D TITLE Joint Standoff Weapons Systems	1		
PROJECT NO. AND NAME 1000 Joint Standoff Weapon				·						
(U) B. Program Change Summary (\$ in Thousands)	(spur					E	-			
		FY 1995 48,966 55,966	FY 1996 44,025	39 <u>6</u> 325	FY 1997 24,565	1 otal <u>Cost</u> 188,698				
 (U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram 	gram	-611	Ţ	-862 -1,104 -611						
 d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY1996 PB (U) Current Budget Submit/FY97 PB 	ğ.	501 54,805	41,448	848	-1,002 23,563	184,150	09			
(U) Change Summary Explanation: Funding: FY96 reductions were for SBIR, general Congressional Reductions, \$453,000 support for Bosnia operations, and \$158,000 reprogramming for F-16s to Jordan. FY97 reduction due to inflation adjustment.	IR, general Congrue to inflation adj	ressional F ustment.	Reductions,	\$453,000 s	upport for B	osnia operat	ions, and \$15	8,000 reprog	ramming for F	16s
Schedule: Restructuring slipped EMD contract award	contract award six	t months.	DT&E sch	edule uncha	anged. Base	line delivery	six months. DT&E schedule unchanged. Baseline delivery begins in FY99.	.99.		
Technical: None										
(U) C. Other Program Funding Summary (\$\sumsands) in Thousands)	Thousands)							o L	Total	
(U) Weapon Procurement, AF (U) SEEK EAGLE (PE 0207590F)	FY 1995 FY 0	FY 1996 0	FY 1997 0 8,033	FY 1998 8,177 9,157	FY 1999 36,339 2,129	FY 2000 63,867 3,547	FY 2001 84,770	Compl TBD	Cost TBD	

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RDT&E BUDGET	ITEM JUSTIFICAT	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Development	PE NUMBER AND TITLE 0604727F Joint Standoff Weapons Systems
PROJECT NO. AND NAME 1000 Joint Standoff Weapon		
Acquisition Milestones JSOW/BLU-108 Pre-EMD Air Force Aircraft Integration Tasks Contract Smart Rack Development Air Force Incorporation into Baseline Contract, JSOW/BLU-108 Dispenser Development JSOW/BLU-108 Preliminary Design Review JSOW/BLU-108 Critical Design Review JSOW/BLU-108 LRIP Decision JSOW/BLU-108 Milestone III JSOW/BLU-108 Production Contract (AF) JSOW/BLU-108 Production Contract (AF)	FY 1995 1 2 3 4 **	FY 1996 FY 1997 4 1 2 3 4 X X X X X X X X X
T&E Milestones JSOW/BLU-108 DT&E Complete OFP Development (F-16) JSOW/BLU-108 IOT&E JSOW/BLU-108 System Qualification Test	*	*
		Page 4 of 6 Pages Exhibit R-2

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	JECT C	OST BREAK	DOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE 0604727F Join	D TITLE Joint Standoff Weapons Systems	
PROJECT NO. AND NAME 1000 Joint Standoff Weapon				
(U) A. Project Cost Breakdown (\$ in Thousands)	FY 1995	FY 1996	FY 1997	
(U) Primary Hardware Development (U) Ancillary Hardware Development	12,078	12,355	2,018 223	
(U) Software Development (U) Svstems Engineering	0,630 11,814 17 133	5,289 10,000	1,986	
	29	3 987	57 57 2 446	
	1,014	5,701	5,312	
(U) Contractor Engineering Support (U) Government Engineering Support	1,761 1,521	1,257	1,709 1019	
(U) Program Management Support/ Other Direct Cite(U) Survivability Analysis	1,620	1,856 30	-110	
_	54,805	41,448	23,563	
	Page	Page 5 of 6 Pages		Exhibit R-3





RDT&E PROGRAM ELEMENT	GRAM ELEI		OJECT (PROJECT COST BREAKDOWN (R-3)	EAKDOV	VN (R-3)		DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	rfacturing De	velopment		PE NUMBER AND TITLE 0604727F Join	ND TITLE	ЭППЕ Joint Standoff Weapons Systems	eapons S	ystems		
PROJECT NO. AND NAME 1000 Joint Standoff Weapon										
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	ry and Planning 1	nformation (\$	in Thousand	<u>[8]</u>						
Performing Organizations: Contractor or Contract Government Method/Type Performing Activity or Funding Vehicle	e Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations Texas Instruments SS/CPIF Lockheed MIPR to	us various various	TBD TBD	TBD	20,345	32,304 8,900	34,162	18,480	22,573	127,864 9,386	
M Tech SS/SBIR	various	TBD	TBD		5,000				5,000	
Phase 3, FP/CPIF Textron TBD	TBD	TBD	TBD		2,972	2,000	18		4,990	
Support and Management Organizations China Lake NWC MIPR Miscellaneous Misc	ations various various	TBD TBD	TBD	1,569	1,021	200 3,139	938	500 12,706	4,228 27,275	
Test and Evaluation Organizations AFDTC, Eglin PO AFB	various	TBD	TBD	1,241	327	1,947	1,892		5,407	
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation				20,345 6,969 1,241	36,162 3,339 1,947	18,984 2,687 1,892	22,573 13,232	147,240 31,529 5,407		
Total Project				28,555	41,448	23,563	35,779	184,150		
			Pa	Page 6 of 6 Pages	S			Exhibit R-3	R-3	

March 1996 DATE 0604735F Combat Training Ranges RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 5 - Engineering and Manufacturing Development 2286 Combat Training Range Equipment PROJECT NO. AND NAME BUDGET ACTIVITY

(U) A. Mission Description and Budget Item Justification

2286 Combat Training Range Equipment

TBD

Continuing

14,560

13,432

15,014

20,501

23,018

9,739

13,664

Fotal Cost

Cost to Complete

FY 2001 Estimate

FY 2000 Estimate

FY 1999 Estimate

FY 1998 Estimate

FY 1997 Estimate

FY 1996 Estimate

FY 1995 Actual

SOST (\$ In Thousands)

accuracy, expanding range coverage, multiplying weapons simulations and adding electronic warfare threat/aircrew interaction. The development effort involves software contracts. This program is in budget activity 5 - Engineering and Manufacturing Development because the Combat Training Ranges (CTR) Program directly contributes to primary developmental effort is the Nellis Air Combat Training System (NACTS) at Nellis AFB. NACTS is a Global Positioning System (GPS) based system to replace monitoring and control of aircrew air-to-air, air-to-ground, and electronic warfare training along with the ability to record events for crew debriefing and analysis. The development to increase the number of high activity players as well as the integration and test of the training system comprised of ground equipment and aircraft pods the effectiveness and survivability of US combat forces by developing range instrumentation and training systems to increase the effectiveness of the training spectrum Training System (JTCTS) development effort to ensure interoperability with AF ranges. JTCTS is a GPS based system to track and record aircraft, surface vessel, and interoperability among service ranges and the encryption of range/aircraft data links. The Air Force continues to participate with the Navy-led Joint Tactical Combat the current Red Flag Measurement and Debriefing System (RFMDS) increasing to 100 the number of instrumented participants, improving aircraft position tracking This program develops the electronic, telecommunications, and instrumentation equipment/systems for training ranges worldwide. These systems provide real-time submarine training operations. Procurement funding will be used for ground equipment and aircraft pods. The acquisition strategy is competitive, with cost plus purchased by procurement funding. This program element also funds the continued development of advanced electronic threats, aircraft/pod interfaces, software from individual aircrew skill training to large-scale exercises.

Page 1 of 8 Pages





DATE March 1996	Ranges		e and threat systems mulation development.	ng System (NACTS) ardware (NSP) s Navy lations and range software block upgrades. s, for range applications ue requirements	Exhibit R-2
RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	turing Development 0604735F Combat Training Ranges	ipment	Housands) Continue CTR basic operating support, and system acquisition and engineering support for range and threat systems Continue EMD of NACTS Conduct software design and development through System Design Review (SDR) (NSP) Continue hardware design (NSP) Continue interoperability improvements with Navy to include software upgrades and weapons simulation development. Other technical support Total	Continue C IX to tasts operating support and support to tange and under the continue C IX to tasts operating support and system (NACTS) Continue Bagineering and Manufacturing Development (EMD) of the Nellis Air Combat Training System (NACTS)	Description of the Breeze
RDT&E BUD	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PROJECT NO. AND NAME 2286 Combat Training Range Equipment	T ni S	- (U) 2,729 Continue C1K basic ope - (U) 5,600 Continue Engineering a - Continue NAC - Conduct proof - Continue devel - Continue devel - (U) 1,000 Continue Advanced Me - (U) 100 Continue interoperability - (U) 100 Begin development of a - (U) 110 Other technical support - (U) 9,739 Total	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ISTIFICATIO	N SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ment	PE NUMBER AND TITLE 0604735F Com	PE NUMBER AND TITLE 0604735F Combat Training Ranges	ing Ranges	
PROJECT NO. AND NAME 2286 Combat Training Range Equipment					
(U) FY 1997 (\$ in Thousands) - (U) 3,578 Continue CTR basic operating support,		uisition and engi	and system acquisition and engineering support for range and threat systems	range and threat s	ystems
	design (NSP) on and factory testin	g (NSP)			
	testing (NSF) on integration effort ting (NSP)	s (NSP)			
 (U) 5,040 Continue interoperability improvements with the Navy to include software upgrades and weapons simulations (U) 500 Begin advanced threat development study (U) 2,500 JTCTS interoperability program 	nents with the Navy t study	to include softwa	re upgrades and we	apons simulations	
- (U) 2,500 Begin AMODSM interface development and integration of interface kits into existing pod and training ranges - (U) 23,018 Total	ment and integratio	n of interface kit	into existing pod a	nd training ranges	
(U) B. Program Change Summary (\$ in Thousands)					
(U) FY1996 President's Budget (U) Appropriated Value	FY 1995 18,301 14,101	<u>FY 1996</u> 10,418	FY 1997 16,098	Total Cost TBD	
	-154 -18 -265	-204			
d. Omnibus or Other Above Threshold Reprogramming(U) Adjustments to Budget Since FY96 Budget(U) Current Budget Submit/FY97 President's Budget	13,664	-216	6,920 23,018	TBD	
	Pag	Page 3 of 8 Pages			Exhibit R-2





March 1996 DATE RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE BUDGET ACTIVITY

0604735F Combat Training Ranges 5 - Engineering and Manufacturing Development

PROJECT NO. AND NAME

2286 Combat Training Range Equipment

(U) Change Summary Explanation

Funding: Decrease in FY96 is reprogramming to fund Bosnia and F-16s to Jordan.

Increase in FY97 is to support the JTCTS interoperability and advanced threat development.

Schedule: None

Technical: None

(U) C. Other Program Funding Summary (\$\section{\text{Thousands}}\)

Cost Comp FY 2001 FY 2000 FY 1999 FY 1998 FY 1997 FY 1996 FY 1995

Total

To

(U) PE 27429F: Appropriation: Other Procurement, AF (OPAF) Budget Activity: OPAF/Electronics & Telecommunications Equipment, Program Title: Combat Training Ranges. Spares not included.

34,273 18,513 14,691 13,375 11,364 2,065 11,607

TBD

Cont

(U) PE 27249F: Appropriation: Aircraft Procurement, AF Budget Activity: Aircraft (A/C) Procurement/Other Production Charges, Program Title: Combat Training Ranges.

21,203 3,795 20,941

17,794 10,285

20,402 19,004

Cont

Exhibit R-2

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RDT&E BUDGET ITEM JUSTIFICATIO	FIFICATION SHEET (R-2 Exhibit)	TE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604735F Combat Training Ranges	
PROJECT NO. AND NAME 2286 Combat Training Range Equipment		
(U) D. Schedule Profile (U) 2 (U) 3 (U) 3 (U) 3 (U) 5 (U) 5 (U) 6 (U) 7 (U) 7 (U) 8 (U) 8 (U) 9 (U)	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
(U) Nellis Air Combat Training System (NACTS)		
(U) Contract Award (U) Complete Streamline Modification (U) Initial Design Review (IDR) (U) Final Design Review (FDR) (U) Complete System Integration and Factory Testing (U) Complete Site Installation (U) Site Acceptance Testing (U) System Turnover Activity (U) IOC	× × × × × × × × × × × × × × × × × × ×	
(U) Joint Tactical Combat Training System (JTCTS) Fixed Ranges		
(U) Contract Award (U) Preliminary Design Review (PDR) (U) Phased Critical Design (CDR) (U) Development Test/Operational Test (U)Delivery of first AF and Navy Units TBD	×	
Pag	Page 5 of 8 Pages	Exhibit R-2

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-2 Exhibit) DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604735F Combat Training Ranges
PROJECT NO. AND NAME 2286 Combat Training Range Equipment	
FY 1995 1 2 3 4	
(U) Software Interoperability	
(U) Block 5 Development Upgrade (U) Block Upgrade Range Installation and Checkout (U) New Block Upgrade	x x x
(U) Advanced Message Oriented Data Security Module (AMODSM)	
(U) Encryption Unit Development (U) RFP Release 4/94 (U) Contract Award (U) Deliver Engineering Development Models (EMDs) (U) Start Production (U) AF Aircraft Integration Development RFP Release Contract Award Contract Award Complete Development of Kit	× × ×
	Page 6 of 8 Pages Exhibit R-2

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	JECT C	OST BREAK	DOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ii.	PE NUMBER AND TITLE 0604735F Com	PE NUMBER AND TITLE 0604735F Combat Training Ranges	
PROJECT NO. AND NAME 2286 Combat Training Range Equipment				
(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u>				
	FY 1995	FY 1996	FY 1997	
(U) Nellis Air Combat Training System (NACTS) EMD Contract Government Support	7,309	3,600	6,900 2,000	
(U) Advanced Message Oriented Data Security Module (AMODSM) EMD Contract	0	1,000	2,500	
(U) Joint Tactical Combat training System (JTCTS)	0	200	2,500	
(U) Software Interoperability Continue to Develop (with Navy) Interoperability Improvements	2,221	210	5,040	
(U) Basic Operating Support	3,204	2,729	3,578	
(U) Advanced Threats			500	
(U) Total	13,449	9,739	23,018	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	Thousands)	NACTS		
Performing Organizations:				
	Page	Page 7 of 8 Pages		Exhibit R-3

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RDT&E PR	RDT&E PROGRAM ELEMENT		PROJECT	COST BREAKDOWN (R-3)	REAKDO	WN (R-3		DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	nufacturing	Developme	int	PE NUMBER AND TITLE 0604735F Com	AND TITLE	отітіє Combat Training Ranges	յ Ranges			
PROJECT NO. AND NAME 2286 Combat Training Range Equipment	ige Equipment									
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle	pe Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations Cubic C/CPAF/FFP	<u>tions</u> FP Mar 95	24,466	24,466	3,258	7,708	3,600	6,900	0	24,466	
Support and Management Organizations ASC/VXC	nizations			829	765	800	800	0	4,024	
Test and Evaluation Organizations Nellis and TARIF	<u>suo</u>			200	0	1,200	1,200	0	4,800	
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	istory and Planni	ng Informatio	n Continued (§	in Thousand	Œ					
Government Furnished Property:	rty: None									
Contract Method/Type Item or Funding Description Vehicle	ype Award or ig Obligation <u>Date</u>	Delivery <u>Date</u>		Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	lent			3,258 859 200	7,708 765 0	3,600 800 1,200	6,900 800 1,200	0 0 0	24,466 4,024 4,800	
Total Project				4,316	8,473	2,600	8,900	0	33,289	
			ď	Page 8 of 8 Pages	<i>હ</i>			Exhibit R-3	R-3	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

PE NUMBER AND TITLE

DATE March 1996

5 - Engineering and Manufacturing Development

BUDGET ACTIVITY

0604740F Computer Resource Technology Transition (CRTT)

	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	Cost to Complete	Total Cost
	Total Program Element (PE) Cost	12,120	8,746	1,956	2,107	2,139	2,304	2,437	0	0 Continuing Continuing	Continuing
2522	2522 Advanced Computer Technology Transition	2,124	6,177	1,292	1,367	1,345	1,487	1,609	0	Continuing	Continuing
2523	2523 Architectural Implementation	1,427	699	664	740	794	817	828	0	Continuing	Continuing
2524	Reuse and Component Support	000'9	1,900	0	0	0	0	0	0	Continuing	Continuing
3315	3315 Digital Information Technology Transition*	2,569	0	0	0	0	0	0	0	Continuing	Continuing

* Beginning in FY 96, funding from this effort transfers to PE 0708611F, Project 3318. Product Data Systems Modernization (PDSM)

(U) A. Mission Description and Budget Item Justification

support for Air force logistics. Engineering and Manufacturing Development, because specifically, it addresses acquiring, developing, and supporting emerging computer program consists of five major projects. Project 2522 will establish the foundational elements of an effective methodology to support transitioned capability. Project 2523 reusable technologies. Project 3315 will provide a totally integrated capability to create, accept, retrieve and store digital (paperless) technical information for life cycle support. This is the only Air Force program for transitioning software technology across the board into the USAF (rather than into a specific acquisition program). The will initially address a particular instantiation, namely command and control architectures, of reusable technology which are available or can be developed in the near This program is in budget activity 5 - The goal of this program is to reduce software lifecycle costs and to improve the quality of computer systems development and term. Project 2524 will address the technologies/processes inherent in operating and maintaining a domain central repository of software, software algorithms, and resources.

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RDT&E BUDGET ITEM JUSTIFIC	TIFICATION SHEET (R-2 Exhibit)	R-2 Exhibit		DATE	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604740F Com	TITLE Computer Re	esource To	schnology T	DE04740F Computer Resource Technology Transition (CRTT)
(U) B. Program Change Summary (\$ in Thousands)				Total	
FY 1995 President's Budget 20,855	<u>Y 1995</u> <u>FY 1996</u> 20,855 2,166	FY 1997 2,048	$\frac{FY\ 1998}{2,177}$	Cost Continuing	
~ - 1 - 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
ted Data Systems	-8,500 -266				
c. Small Business Innovative Research (SBIR)					
d. Bosnia I Reprogramming e. Sec 8101, 8125, & 8129 (FFRDC)	-42 -178	Ġ			
		-82 -10 1 956	2 107	Continuing	
(U) Current Budget Submit/FY 1997 President's Budget	12,120 6,740	1,730	2,107	g	
(U) Change Summary Explanation: Funding: FY 95 reduction due to transfer of Integrated Mair FY 1997 and FY 1998 fundings were made to FY 97 and FY	ated Maintenance Data Systems (IMDS) funding to PE 0603108F, Integrated Da 7 and FY 98 funding by the Air Force to support other higher priority programs.	MDS) funding to I	PE 0603108F, ter higher prio	Integrated Data rity programs.	ated Maintenance Data Systems (IMDS) funding to PE 0603108F, Integrated Data Systems. Adjustments to 37 and FY 98 funding by the Air Force to support other higher priority programs.

Schedule: None.

Technical: None.

(U) C. Other Program Funding Summary (\$\subseteq\$ in Thousands)

Not Applicable

066

Page 2 of 16 Pages

0604740F Computer Resource Technology Transition (CRTT) **March 1996** DATE RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 5 - Engineering and Manufacturing Development 2522 Advanced Computer Technology Transition PROJECT NO. AND NAME BUDGET ACTIVIT

(U) A. Mission Description and Budget Item Justification

Develops, through interaction with AF MAJCOMs, tools and technologies for improving the software development environment and processes, and accelerates transition of software technology to the users. Emphasis is on identifying software technology items that provide the best return in investment and setting up receptor groups at the user organizations that support transition and productization.

Continuing

Continuing

0

1,609

1,487

1,345

1,367

1,292

6,177

2,124

2522 Advanced Computer Technology Transition

Total Cost

Cost to Complete

FY 2002 Estimate

FY 2001 Estimate

FY 2000 Estimate

FY 1999 Estimate

FY 1998 Estimate

FY 1997 Estimate

FY 1996 Estimate

FY 1995 Actual

COST (In Thousands)

Project Type New Start

Not Applicable ×

Termination

FY 1995 (\$ in Thousands)

9

Continue to develop technology transition infrastructure within the Air Force. 779 (U)

Continue funding JLC activities in software re engineering and modernization of obsolescent, expensive software. 225

Complete development and continue to implement Air Force-wide metrics repository. 922

2,124 99

FY 1996 (\$ in Thousands)

Continue to develop technology transition infrastructure within the Air Force. 376 9

Continue funding JLC activities in software re engineering and modernization of obsolescent, expensive software. (U) 140

Improve and continue to implement Air Force-wide metrics repository. (U) 878

Develop tools for new software design method 4,783

\$6,1,77

991

Page 3 of 16 Pages





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	CATION	N SHEET (F	۲-2 Exhibit	()	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE 0604740F Com	TITLE Computer R	esource Te	Computer Resource Technology Transition (CRTT)
PROJECT NO. AND NAME 2522 Advanced Computer Technology Transition					
 (U) FY 1997 (\$\frac{8}\$ in Thousands) (U) 381 Continue to develop technology transition infrastructure within the Air Force. (U) 140 Continue funding JLC activities in software re engineering and modernization of obsolescent, expensive software. (U) 771 Improve and continue to implement Air Force-wide metrics repository. (U) 1,292 Total 	infrastructure e re engineer orce-wide met	e within the Air F ing and moderni: trics repository.	orce. zation of obsoles	cent, expensive	; software.
 (U) FY 1998 (\$\frac{\pmatrix}\$ in Thousands) (U) 403 Continue to develop technology transition infrastructure within the Air Force. (U) 145 Continue funding JLC activities in software re-engineering and modernization of obsolescent, expensive software. (U) 145 Continue funding JLC activities in software re-engineering and modernization of obsolescent, expensive software. (U) 819 Improve and continue to implement Air Force-wide metrics repository. (U) \$1,367 Total 	infrastructure re re-engineer orce-wide me	e within the Air F ring and moderni trics repository.	torce. zation of obsoles	cent, expensiv	s software.
(U) B. Program Change Summary (\$ in Thousands)	FY 1995	FY 1996	FY 1997	FY 1998	Total <u>Cost</u>
FY 1996 President's Budget Appropriated Value	10,859 10,859	1,458 6,458	1,353	1,412	Continuing
(U) Adjustments to Appropriated value a. Congressional General Reduction b. Small Business Innovative Research (SBIR) c. Transfer to PE 0603108F, Integrated Data Systems	-100 -135 -8,500	-141			
e. Small Business Innovative Research (SBIR) f. Bosnia I Reprogramming o Non-Pay Inflation		-125 -15	-54	-38	
(U) Adjustment to Budget Years Since FY 95 PB (U) Current Budget Submit/FY 1997 President's Budget	8,124	6,177	<i></i> 1,292	-7 1,367	Continuing
	Pag	Page 4 of 16 Pages			Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

BUDGET ACTIVITY

PE NUMBER AND TITLE

March 1996

DATE

5 - Engineering and Manufacturing Development PROJECT NO. AND NAME

0604740F Computer Resource Technology Transition (CRTT)

2522 Advanced Computer Technology Transition

(U) Change Summary Explanation:

Funding: FY 95 decrease due to transfer of \$8.5 million to PE 0603108F, Integrated Data Systems for the Integrated Maintenance Data System (IMDS). Air Force reduced FY 97 and FY 98 funding to support higher priority programs.

Schedule: None.

Technical: None.

(U) C. Other Program Funding Summary (\$ in Thousands)

Not applicable.

(U) D. Schedule Profile

Not applicable.

Page 5 of 16 Pages





RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ECT COST	BREAKD	OWN (R-3)	DATE March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBI 06047	PE NUMBER AND TITLE 0604740F Comp	uter Resour	PE NUMBER AND TITLE 0604740F Computer Resource Technology Transition (CRTT)	
PROJECT NO. AND NAME 2522 Advanced Computer Technology Transition					
(U) A. Project Cost Breakdown (S in Thousands)					
	FY 1995 F	FY 1996	FY 1997	FY 1998	
(U) Continue to develop technology transition infrastructure	716	376	381		
within the Air Force (U) Continue funding JLC activities in software re engineering	225	140	140		
and modernization of obsolescent, expensive software (U) Air Force-wide metrics repository (U) Develop tools for new software design method (Work will	922	878 4,783	771		
actually be performed in Project 2223 (Crifical Software Research) Database is being updated to reflect this change) (U) Total	2,124	6,177	1,292	1,367*	,
(U) B. Budget Acquisition History and Planning Information (\$ in 1 Not applicable.	tion (\$ in Thousands)				
(U) D. Schedule Profile Not applicable.					

Page 6 of 16 Pages

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

PE NUMBER AND TITLE

March 1996

5 - Engineering and Manufacturing Development

0604740F Computer Resource Technology Transition (CRTT)

PROJECT NO. AND NAME

BUDGET ACTIVITY

2523 Architectural Implementation

COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	Cost to Complete	Total Cost
2523 Architectural Implementation	1,427	699	999	740	794	817	828	0	Continuing	Continuing

(U) A. Mission Description and Budget Item Justification

architecture will address the components common to most command centers (e.g., message processing, display processing, user interfaces) and will focus on the migration This project develops, through rapid prototyping and interaction with Air Force users, a tailorable architecture for support of command and control applications. The of multilevel computer security applications/technologies into AF operations. This project is needed to mitigate development time associated with command center acquisitions so that the system is not obsolete when delivered.

Project Type

Termination New Start

Not Applicable ×

FY 1995 (\$ in Thousands) 3

Update tailorable command center architecture and continue to qualify software components. (U) 850

Continue development of Command Center Concept of Operations. J) 100

Continue identifying multilevel security issues/solutions, testing, analysis, and technology transition. (U) 477

(U) 1,427

FY 1996 (\$ in Thousands) 3

Update tailorable command center architecture and continue to qualify software components. (0) 471

Continue identifying multilevel security issues/solutions, testing, analysis and technology transition. (U) 198

699 (II)

995

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nufacturing Development ntation ds) tailorable command center architectur ue identifying multilevel security issue tailorable command center architectur ue identifying multilevel security issue ary (\$ in Thousands) d Value d duction e Research (SBR)	cture and contiins sues/solutions, sues/solutions, sues/solutions, 1,427 1,493 1,493 -66	inue to qualify softwar, testing, analysis, and testing, analysis, and testing, analysis, and 708 FY 1996 FY 1996 708 708 708 708	of the state of th	nts. r transition. r transition. 765	Software components. sis, and technology transition. sis, and technology transition. FY 1997 FY 1997 FY 1998 Gost Gost Gost Continuing	ransition (CRTT)	
 d. Bosnia I Reprogramming e. Non-Pay Inflation (U) Adjustment to Budget Years Since FY 95 PB (U) Current Budget Submit/FY 1997 President's Budget 	1,427	699	-28 -3 664	-21 -4 740	Continuing		
	Раде	Page 8 of 16 Pages			Exhibit R-2		

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

BUDGET ACTIVITY

PE NUMBER AND TITLE

0604740F Computer Resource Technology Transition (CRTT)

March 1996

DATE

5 - Engineering and Manufacturing Development PROJECT NO. AND NAME

2523 Architectural Implementation

(U) Change Summary Explanation: Funding: Air Force reduced FY 97 and FY 98 funding to support higher priority programs.

Schedule: None.

Technical: None.

(U) C. Other Program Funding Summary (\$ in Thousands)

Not applicable.

(U) D. Schedule Profile

Not applicable.

Page 9 of 16 Pages





RDT&E PROGRAM ELEMENT/PROJI	ECT COS	T BREAK	PROJECT COST BREAKDOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NU 060	PE NUMBER AND TITLE 0604740F Com	puter Resour	D TITLE Computer Resource Technology Transition (CRTT)
PROJECT NO. AND NAME 2523 Architectural Implementation		·		
(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u>				
	FY 1995	FY 1996	FY 1997	FY 1998
(U) Update tailorable command center architecture and	850	471	473	
continue to quality software components (U) Continue development of Command Center Concept of	100			
Operations (U) Continue identifying multilevel security issues/solutions	477	198	191	
and STAF testing, analysis and technology transition (U) Total	1,427	699	664	740
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands) Not applicable.	<u>housands)</u>			
	Page 10 of 16 Pages	16 Pages		Exhibit R-3

0604740F Computer Resource Technology Transition (CRTT March 1996 DATE RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 5 - Engineering and Manufacturing Development 2524 Reuse and Component Support PROJECT NO. AND NAME **BUDGET ACTIVIT**

Continuing Cost to Complete FY 2002 Estimate ō FY 2001 Estimate 0 FY 2000 Estimate 0 FY 1999 Estimate ō FY 1998 Estimate 0 FY 1997 Estimate 1,900 FY 1996 Estimate 000'9 FY 1995 Actual COST (In Thousands) Reuse and Component Support 2524

Continuing

Total Cost

(U) A. Mission Description and Budget Item Justification

This initative develops a documented knowledge for establishing software reuse libraries that support specific application domains. These libraries will support system developing a central repository of software and software algorithms. Reusing software will result in lower software development costs, faster software development engineers through the reuse of large scale software components. This program is needed so that the Air Force can reuse software that it has already purchased by schedules, and lower software development risks.

Project Type

New Start

Termination

- Not Applicable ×
- FY 1995 (\$ in Thousands) 9
- Continue evaluation and certification of software reuse modules for C4I Systems. (U) 4,167
 - Update and maintain software reuse library for C4I Systems. (U) 1,833
 - Total (U) \$6,000
- FY 1996 (\$ in Thousands) 3
- Update and maintain software reuse library for C4I Systems. (U) 1,900 (U) 1,900
 - Total

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHEET (R-2 Exhibit	(DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development PROJECT NO. AND NAME	PE NUMBER AND TITLE 0604740F Com	Computer R	esource Te	PE NUMBER AND TITLE 0604740F Computer Resource Technology Transition (CRTT
2524 Reuse and Component Support				
(U) B. Program Change Summary (\$ in Thousands)				
FY 1995	95 FY 1996	FY 1997	FY 1998	Total <u>Cost</u>
	0 0 6,000 1,900	0	0	Continuing
(U) Adjustments to Appropriated Value a. Congressional General Reduction b. Small Business Innovative Research (SBIR)				
sudget	6,000 1,900	0	0	Continuing
(U) Change Summary Explanation: Funding: Development of the Central Archive for Reusable Defense Software (CARDS) program to develop a reuse blueprint for DoD and establish a reuse Funding: Development of the Central Archive for Reusable Defense Software (CARDS) program to develop a reuse blueprint for DoD and establish a reuse library. Transfer of \$6.0 million in FY 95 funds corrects inadvertent placement in project 2522.	sfense Software (CARD ertent placement in pro	S) program to dev ject 2522.	elop a reuse blı	ueprint for DoD and establish a reuse
Schedule: None.				
Technical: None.				
(U) C. Other Program Funding Summary (\$ in Thousands) Not applicable.				
(U) D. Schedule Profile Not applicable.				

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BREAKDOWN (R-3)	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development PROJECT NO. AND NAME 2524 Reuse and Component Support	PENUMBER AND TITLE 0604740F Computer Resource Technology Transition (CRTT)	Transition (CRTT)
(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u> Not applicable.		
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands) Not applicable.	(spu	
Pa	Page 13 of 16 Pages	Exhibit R-3
UNCI	CIESIFIED	



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	FION SE	HEET (R	-2 Exhil	oit)		DATE M	March 1996	9(
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ant	PE NI 090	PE NUMBER AND TITLE 0604740F Com	ritle computer	Resourc	e Techn	PENUMBER AND TITLE OCCIPION (CRTT) 0604740F Computer Resource Technology Transition (CRTT)	ansition	(CRTT)
PROJECT NO. AND NAME 3315 Digital Information Technology Transition*	ition*									
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	Cost to Complete	Total Cost
3315 Digital Information Technology Transition*	2,569	0	0	0	0	0	0	0	Continuing	Continuing
	nsfers to PE (stiffcation of Defense (e design, ma pport proces	OSD) fundi nufacture, m s to a largel	roject 3318 ng initiative naintenance, y automated	0708611F, Project 3318. Product Data Systems Modernization (PDSM). (OSD) funding initiatives have emphasized the need to improve the preganufacture, maintenance, and operation of DOD weapon systems. This is to a largely automated and integrated mode of operations. This will a	nasized the mon of DOD veed mode of	Modernization need to improperations.	ove the prep sms. This I This will al	aration, deli roject is nee low the Air I	very, use, ar ded to trans Force to cre:	id ition from ite data
X Not Applicable (U) <u>FY 1995 (\$ in Thousands)</u> A 1 440 Continue to manage the development and implementation of the Air Force digital product data infrastructure.	develonment	and implen	entation of	the Air Forc	e digital pro	duct data in	frastructure.			

Continue to manage the development and implementation of the All Force digital product (J) 1,440

Manage the deployment of digital technical and engineering product data systems such as Joint Computer-aided Acquistion and Logistics Support (JCALS) and Joint Engineering Data Management and Information Control System (JEDMICS) (U) 760

Plan and implement the conversion of AF legacy data for use by future systems such as JCALS and JEDMICS.

Coordinate transition from AF legacy data systems to digital technical and engineering product data systems such as JCALS and JEDMICS. (U) 70 (U) 139

Develop and present CALS orientation materials and instruction to AF users of digital product data systems such as JCALS and JEDMICS.

(U) 160 (U) 2,569

(U) FY 1996

Beginning in FY 96, funding from this effort transfers to PE 0708611F, Project 3318, Product Data Systems Modernization (PDSM).

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RDT&E BUDGET ITEM JUSTIFICA	TIFICATION SHEET (R-2 Exhibit)	R-2 Exhibit	(;	DATE	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604740F Com	D TITLE Computer R	esource T	echnology T	PENUMBER AND TITLE 0604740F Computer Resource Technology Transition (CRTT)
PROJECT NO. AND NAME 3315 Digital Information Technology Transition*					
(U) <u>FY 1997</u> Not applicable.					
(U) B. Program Change Summary (\$\sin \text{Thousands})				Total	
₩.	7 1995 FY 1996 2,569 0 2,569	FY 1997 0	<u>FY 1998</u> 0	Cost Not applicable	
 a. Congressional General Reduction b. Small Business Innovative Research (SBIR) c. Below Threshold Reprogramming (U) Current Budget Submit/President's Budget 2, 	, 2,569 0	0	0	Not applicable	
(U) Change Summary Explanation: Funding: Beginning in FY 96, funding transfers to PE 07086	PE 0708611F, Project 3318, Product Data Systems Modernization (PDSM).	uct Data Systems l	Modernization	(PDSM).	
Schedule: None.					
Technical: None.					
(U) C. Other Program Funding Summary (\$ in Thousands) Not applicable.			į.		
(U) D. <u>Schedule Profile</u> Not applicable.					

1003 UNCI SIFIED

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RDT&E PROGRAM ELEMENT/PROJECT		BREAKDO	COST BREAKDOWN (R-3)		DATE March 1996
вироет Астіуіту 5 - Engineering and Manufacturing Development	PE NUMB 06047	PE NUMBER AND TITLE 0604740F Comp	uter Resoul	rce Techn	PE NUMBER AND TITLE 0604740F Computer Resource Technology Transition (CRTT)
PROJECT NO. AND NAME 3315 Digital Information Technology Transition*					
(U) A. Project Cost Breakdown (\$\sin Thousands)					
H.	FY 1995 F	FY 1996	FY 1997	FY 1998	
(U) Planned for AF CPO participation in CALS EXPO 94 (U) Developed test cases for AF infrastructure to implement					
CALS (U) Developed and coordinated digital data strategy (U) Transitioned Air Force CALS Strategic Plan/Roadmap into					
electronic document					
(U) Continue to manage the development and implementation	1,440				
of the Air Force digital product data infrastructure. (1) Manage the denloyment of digital technical and	760				
engineering product data systems such as Joint Computer-					
aided Acquistion and Logistics Support (CALS) and Source Engineering Data Management and Information Control System (IFDMICS)					
(U) Plan and implement the conversion of AF legacy data for	70				
use by future systems such as JCALS and JEDMICS. (U) Coordinate transition from AF legacy data systems to	139			,	
digital technical and engineering product data systems such					
(U) Develop and present CALS orientation materials and	160				
instruction to AF users of digital product data systems such		•			
as JCALS and JEDIVILCS.	2.569				
(C) 10tat	i i				
(T) B. Budget Acquisition History and Planning Information (\$ in Thousands)	Thousands)				
Not applicable.					
	Page 16 of 16 Pages	Pages			Exhibit R-3

RDT&E BUDGET ITEM JUST	USTIFICA	TION SI	TFICATION SHEET (R-2 Exhibit)	?-2 Exhi	bit)		DATE	March 1996	90
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	oment	PE N 06 (PE NUMBER AND TITLE 0604750F Intell	TITLE ntelligen	PE NUMBER AND TITLE 0604750F Intelligence Equipment	ment			
PROJECT NO. AND NAME 2053 National Air Intel Center									
COST (\$ In Thousands)	FY 1995 Actual	1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
2053 National Air Intel Center	2,553	1,255	1,211	1,298	1,338	1,417	1,388	0	TBD
(U) A. Mission Description and Budget Item Justification (U) Intelligence Equipment (IE) provides continuing development and upgrades of National Air Intelligence Center (NAIC) and Air Force Information Warfare Center (AFIWC) threat analysis capabilities. IE provides NAIC and AFIWC with the tools necessary to make timely assessments of foreign weapon systems. IE develops the tools to model and assess foreign airborne and aerospace systems. Both organizations are tasked with providing detailed foreign technology intelligence information to a variety of both DOD and Non-DOD customers. In the past few years, customers' requirements have been more sophisticated, dictating more detailed and timely intelligence not only in the technology regime but also in the economic, world crisis, and political arenas. The Rome Laboratory is charged with providing new analysis capabilities and tools to meet these evolving requirements. This effort is Budget Activity 5, Engineering & Manufacturing Development, because the program develops and inserts new technology into existing systems and models to keep existing systems current.	opment and upged AFIWC with tems. Both orgens, custo economic, wo This effort is But to keep existing	grades of Na the tools nec anizations a mers' requir rld crisis, an idget Activit	tional Air In cessary to me re tasked wil rements have d political al by 5, Enginee	ake timely as th providing been more renas. The l	center (NAIC ssessments o ; detailed for sophisticater Rome Laborr nufacturing I	f foreign we eign technol di dictating r atory is charing a tory is charing of the foreignment a tory is charing the foreignment at the foreign	nt and upgrades of National Air Intelligence Center (NAIC) and Air Force Information Warfare Center WC with the tools necessary to make timely assessments of foreign weapon systems. IE develops the Both organizations are tasked with providing detailed foreign technology intelligence information to a sars, customers' requirements have been more sophisticated, dictating more detailed and timely somic, world crisis, and political arenas. The Rome Laboratory is charged with providing new analysis ffort is Budget Activity 5, Engineering & Manufacturing Development, because the program develops sep existing systems current.	tion Warfares. E develo nce informa I and timely viding new s	e Center ps the tion to a analysis
	Neapons Model Bnature Techni cific foreign sy gement Simulai sis Model (TEA	ons Modeling. re Techniques - FIST. foreign system evaluation. nt Simulation. odel (TEAM) Upgrades.	tion. les.						
 (U) FY 1996 (U) \$ 147 (U) \$ 147 (I) \$ 196 (I) \$ 196 (I) \$ 196 (II) \$ 196 (II) \$ 276 (III) \$ 198 (IIII) \$ 198 (IIII) \$ 198 (IIIII) \$ 198 (IIIIII) \$ 198 (IIIIIIIIIIII) \$ 198 (IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	ce. cchniques - FIS' nund control int gement Simula alysis Model (T Is	ues - FIST. ontrol intercept modeling. nt Simulation. Model (TEAM) Upgrades	ling. ades						
		Page 1 of 5 Pages	5 Pages				Exhibit R-2	-2	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SE	IEET (R-2	Exhibit)	DATE March 1996	မွ
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NU 060	PE NUMBER AND TITLE 0604750F Intell	PE NUMBER AND TITLE O604750F Intelligence Equipment	ient	
PROJECT NO. AND NAME 2053 National Air Intel Center					
 (U) FY 1997 (U) \$ 200 (D) \$ 364 Initiate Electromagnetic Antenna Modeling. (U) \$ 384 Initiate Automated Electro-Optic Tools. (U) \$ 263 Initiate next generation digital intelligence products (CD-ROM based) for Reference Threat Packages (RTP). (U) \$1,211 Total 	lucts (CD-RO)	M based) for Ref	erence Threat Packag	es (RTP).	
(U) B. Program Change Summary (\$ in Thousands)				Total	
(U) Previous President's Budget (U) Appropriated Value	FY 1995 2,603 2,633	FY 1996 1,294 3,938	FY 1997 1,268	Cost	
(U) Adjustments to Budget since FY96 PB a. General Congressional reduction	-30	-25			•
c. Omnibus and Other Above Threshold Reprogrammings	-49	-14	!		
 d. Below Threshold Reprogramming (U) Adjustment to Budget Years Since FY 96 PB (U) Current Budget Submit/President's Budget 	2,553	1,255	-57 1,211	TBD	
(U) Change Summary Explanation: Funding: FY97 reduction due to Operations & Maintenance RDT&E reduction	DT&E reduct	ion.			
Schedule: Not Applicable					
Technical: Not Applicable					
	Page 2 of 5 Pages	'5 Pages		Exhibit R-2	
		•			

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604750F Intelligence Equipment	
PROJECT NO. AND NAME 2053 National Air Intel Center		
(U) C. Other Program Funding Summary (\$ in Thousands) (U) Not Applicable		
(U) D. Schedule Profile FY 1995	FY 1996 7 1 1 1 1 1 1 1 1 1 1 1 1	
, ,		
Complete (U) Air Surveillance C3 - foreign system evolution complete		
(U) Flexible Infrared Signature Techniques complete	×	
(U) Man-In-The-Loop Engagement Simulation complete	X	
(U) Threat Engagement Analysis Model (TEAM) Upgrades complete	X	
(U) Air Surveillance C3 - ground control intercept modeling complete	X	
(U) Advanced Migration Tools complete (U) Start Electromagnetic Antenna	×	
Modeling (U) Start Automated Electro-Optic Tools (U) Start Reference Threat Packages		
P_{G}	Page 3 of 5 Pages	Exhibit R-2





96				,														,
March 1996														Total <u>Program</u>	9	2,256	1,227 770	R-3
DATE														Budget FY 1998	•	180		Exhibit R-3
	pment													Budget FY 1997		180		
/PROJECT COST BREAKDOWN (R-3)) TITLE Intelligence Equipment			FY 1997	200					364 384 263	1,211			Budget <u>FY 1996</u>	,	811	120	
REAKDC				FY 1996	147	196	158	65	276 413	7 2 2	1,233			Budget FY 1995	;	311	156 350	ces
COSTB	PE NUMBER AN 0604750F				~ ~	4 K	v 10	2				(spi		Total Prior to FY 1995	,	55 1.292	468	Page 4 of 5 Pages
ROJECT	ıţ			FY 1995	373	533	365 415	445		Y C	2,333	(\$ in Thousar		Project Office <u>EAC</u>	,	2,256 1.649	603	Pc
EMENT/PF	evelopment		<u>(s</u>						modeling			Information (Performing Activity <u>EAC</u>		2,256 1.649	1,227 770	
RAM ELE	acturing D		in Thousands			S	lysis imulation	del Upgrades	trol intercept 1	gu s		and Planning		Award or Obligation <u>Date</u>		30 Sep 93 1 Anr 93	30 Sep 93 24 Apr 93	•
RDT&E PROGRAM ELEMENT	g and Manuf	ME r Intel Center	st Breakdown (\$		Interface	Kr weapons Modeling Flexible IR Signatures Techniques	Air Surveillance C3 - system analysis Man-In-The-Loop Engagement Simulation	Threat Engagement Analysis Model Upgrades	Air Surveillance C3 - ground control intercept modeling	Electromagnetic Antenna Modeling Automated Electro-Optics Tools IPIDS/Reference Threat Packages		juisition History	zations:	Contract Method/Type or Funding	nt Organizations	93-C-0261/0 93-C-0142	93-C-0182 93-C-0261/1	
RDI	вирсет АСТІVITY 5 - Engineering and Manufacturing Developn	PROJECT NO. AND NAME 2053 National Air Intel Center	(U) A. Project Cost Breakdown (\$ in Thousands)				(U) Air Surveillance		(U) Air Surveillance C3 - ground co		(U) Total	(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	Performing Organizations:	Contractor or Government Performing Activity	Product Development Organizations	GRCI Rockwell	Photon Reasearch GRCI	

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	CT COST BI	REAKDO	WN (R-	3)	DATE	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604750F Intell	AND TITLE OF Intellig	PE NUMBER AND TITLE 0604750F Intelligence Equipment	ipment		
PROJECT NO. AND NAME 2053 National Air Intel Center						
Contractor or Contract Government Method/Type Award or Performing Project Performing or Funding Obligation Activity Office Activity Vehicle Date EAC EAC GRCI 93-C-0261/11 16 Mar 95 425 425 Cslspan F33657-90- 200 200	Total Prior to FY 1995 5 0 0	Budget FY 1995 380 200	Budget FY 1996 45	Budget FY 1997	Budget FY 1998	Total Program 425 200
Naval Post Grad - 100 100 School	0	100				100
Contractor TBD - Rome Laboratory		387	631 185	841 190	934 220	TBD TBD
Support and Management Organizations (U) Not Applicable						
Test and Evaluation Organizations (U) Not Applicable						
Government Furnished Property: Not Applicable Contract Method/Type Award or Item or Funding Obligation Delivery Description Vehicle Date Date	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Total <u>Program</u>	
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	4,980	2,553	1,255	1,211	TBD	
Total Project	4,980	2,553	1,255	1,211	TBD	
	Page 5 of 5 Pages	\$3			Exhibit R-3	2-3





RE	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICAL	IS NOL	HEET (R	-2 Exhil	oit)		DATE M	March 1996	9
BUDGET ACTIVITY 5 - Engineering a	вироет астіуту 5 - Engineering and Manufacturing Developm	ent	PE NU 060	PE NUMBER AND TITLE 0604754F Join(ıπ∟E oint Tac t	ical Infor	mation [D TITLE Joint Tactical Information Distribution System	on Systel	ŭ
PROJECT NO. AND NAME P771 JTIDS										
	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
P771 JTIDS		10,975	9,124	11,075	9,449	9,525	9,910	10,175	Continuing	TBD
(U) A. Mission Descri Joint Tactical Informatic secure, jam-resistant, hi Digital Information Linl Air Force, Navy and Ma techniques. JTIDS pern E-3, E-8, F-15, RIVET	(U) A. Mission Description and Budget Item Justification Joint Tactical Information Distribution System (JTIDS) effort provides the Army, Navy, Air Force, and Marine Theater Command and Control (C2) elements with a secure, jam-resistant, high capacity data link communications system for use in a tactical combat environment. JTIDS is the communications component of the Tactical Secure, jam-resistant, high capacity data link communications system for use in a tactical combat environment. JTIDS is the communications component of the Tactical Information Link (TADIL) designated Link-16, and is synonymous with the TADIL J message standard. The JTIDS family of terminals (Class 2 and 2H for the Air Force, Navy and Marine Corps; and 2M for Army) is a joint development program which employs Time Division Multiple Access (TDMA), and spread spectrum Air Force, Navy and Marine Corps; and MCE) program and budget for JTIDS production terminals in the tactical theater. Host platforms (i.e. E-3, E-8, F-15, RIVET JOINT, ABCCC, MAOC, and MCE) program and budget for JTIDS production terminals.	ovides the A stem for use synonymous developmen ial command ogram and b	rmy, Navy, in a tactica with the TA the program v control, an udget for JT	Air Force, a 1 combat env. DIL J messe which emplo d status info	nd Marine 7 //ironment. ge standard ys Time Div rmation wit	Theater Com TTDS is the The JTIDS ision Multip h all termina ls.	mand and C communic: family of te le Access (T Is in the tac	control (C2) ations comportminals (Cla TDMA), and tical theater.	elements wit ment of the Cass 2 and 2H spread spect Host platfo	h a Tactical for the rum rms (i.e.
(U) P <u>Y 1995</u> - (U) 3,700	 PROGRAMS: Efforts associated with Acquisition and Integration of Class 2/2H and Fighter Data Link Terminals. (U) System integration and software development for E-3, E-8, F-15, RIVET JOINT, ABCCC, and MCE. (U) Prepare DAB materials and procurement package 	th Acquisition ware developed procuremer	on and Integoment for Edit package	ration of Cl. -3, E-8, F-11	ass 2/2H and s, RIVET JC	i Fighter Dai	ta Link Terr C, and MCI	ninals.		
- (U) 2,100	INTEGRATION/INTEROPERABILITY: Efforts associated with Integration of terminals and insuring Link-16 operates effectively across all platforms (U) Provided support and on-site Enhanced JTIDS System Exerciser (EJSE) operators for host platform developers and integrators (U) Continued Affordability/Manufacturing Technology Demonstration (AMTD) bench tests at Eglin AFB.	LITY: Effor ite Enhancec anufacturing	ts associate I JTIDS Sys ; Technolog	ed with Inte tem Exerciss y Demonstra	gration of t er (EJSE) op rtion (AMTI	erminals ar erators for h)) bench test	nd insuring ost platform s at Eglin A	ILITY: Efforts associated with Integration of terminals and insuring Link-16 operates ite Enhanced JTIDS System Exerciser (EJSE) operators for host platform developers and in famufacturing Technology Demonstration (AMTD) bench tests at Eglin AFB.	srates and integrate	ors.
- (U) 3,575	SUSTAINMENT: Efforts associated with ensuring fielded terminals are supported (U) Integrated Software Support Activity (ISSA) technical engineering software support at Warner Robins AFB (U) Class 2 terminal logistics support (PRE-OP)	d with ensur rt Activity (I) upport (PRE	ing fielded t SSA) techni -OP)	terminals are cal engineer	supported. ing software	support at V	Varner Robi	ins AFB		
- (U) 1,600	TEST: Efforts associated with fielding terminals - (U) IOT&E for MCEs, JSTARS, RIVET JOINT, Class 2M Terminal - (U) F-15 Operational Special Project (OSP) Complete - (U) Verified MIP correction and support E-8, ABCCC and MCE development efforts - (U) Supported AF host platform participation in joint exercises in Ballistic Missile Defense demonstrations - (U) Supported AF host platform participation in joint exercises in Ballistic Missile Defense demonstrations	ling terminal S, RIVET JC roject (OSP) d support E- n participati	IS Complete S, ABCCC on in joint e	VT, Class 2M Termin complete ABCCC and MCE de in joint exercises in E	al welopment o Sallistic Mis	efforts sile Defense	demonstrati	ons Exhibit R-2	2-2	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	PE NUMBER AND TITLE 0604754F Joint Tactical Information Distribu	Page 2 of 10 Pages	
RDT&E BUDGET ITEM JUSTIF	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development PROJECT NO. AND NAME P771 JTIDS	- (U) 10,975 TOTAL	



R	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	it) DATE March 1996
BUDGET ACTIVITY 5 - Engineering a	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development 0604754F Joint Tact	D TITLE Joint Tactical Information Distribution System
PROJECT NO. AND NAME P771 JTIDS		
(U) <u>FY 1996</u> - (U) 1,402	PROGRAMS: Efforts associated with Acquisition and Integration of Class 2/2H and Fighter Data Link (FDL) terminals - (U) Write and administer contracts for E-3, E-8, F-15, RIVET JOINT, Cobra Ball, ABCCC, MAOC, and MCE platforms. - (U) F-15 FDL Acquisition and Integration. - Integration of Link-16 into F-15 C/D and F-15 E. - FDL System Spec Development. - Interface Control Document (ICD) Development - Test Plan Development. - Test Plan Development. - Technical support to JTIDS Operations at Mountain Home AFB and Nellis AFB. - Technical support to System and Configuration requirements - Determine terminal technical and configuration requirements - Establish delivery schedule; establish maintenance plans - Establish maintenance training schedules.	Fighter Data Link (FDL) terminals I, ABCCC, MAOC, and MCE platforms. Iis AFB.
- (U) 1,233	INTEGRATION: Efforts associated with integration of terminals into the various platform - (U) On-going integration support to AWACS, Rivet Joint, ABCCC, MAOC, MCE, JSTARS, and F-22. - (U) Technical Improvements: Technical support to AF Platforms to integrate Pre-Planned Product Improvements (P3I) Assist in processing P3I; (U) Field Support for F-15 Operations. Support flight training, exercises, and scenario development/demonstrations Support Data Link Utility Evaluation through OSP and follow-on activities Support F-15 Electronic Combat Identification (CID) Development Test and Engineering (DT&E) and follow-on activities. Support F-15 Electronic Combat Identification (CID) Development Test and Engineering (DT&E) and follow-on activities. High Gear Program: Testing sensor tracking of theater missile. Airborne Interceptor: Establish procedures for intercepting theater missile.	fform E. JSTARS, and F-22. provements (P3I) ions ies and Engineering (DT&E) and follow-on activities. ile.
- (U) 1,603	 INTEROPERABILITY: Efforts associated with ensuring Link-16 operates effectively across all host platforms. (U) AF platform interoperability. Support Multi-Service Interoperability Tests. Support All Service Combat Identification Evaluation Team (ASCIET) tests. Eage 3 of 10 Pages 	y across all host platforms. ests.

DATE March 1996	Distribution System		tworks.	ware.			", and MCE platforms.	
RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development 7 - Engineering and Manufacturing Development 8 - Secondary Processing and Manufacturing Development 9 - Engineering and Manufacturing Development 9 - Engineering and Manufacturing Development 9 - Front	P771 JTIDS Support to Engineering Interoperability Review Groups (IORGS US/UK bilateral) Support definition of 1 ink-16 Network Structures to support Interoperability	Support definition of Link-16 Network Structures to support interoperability. (U) Network Support. Air Force Network Design Provide Network Design for Integration Testing. Determine Network Design for Integration Testing. Maintain AF Network Design Aid for Operations. Evaluate Navy Network Design Aid for ACC Users. Evaluate navy Networking of JTIDS and Transport Control Protocol Internet Protocol Networks.	 (U) 2,842 SUSTAINMENT: Efforts associated with ensuring fielded terminals are supported. (U) ISSA technical engineering software support at Warner Robins AFB. (U) Class 2/2H Technical Manual updates. (U) Class 2 Log support (PRE-OP). (U) Maintain and upgrade the SJSs, Link-16 Winnebagos. (U) Maintain and upgrade the MULTI-LINK Translator and Display System (MTDS) prototype hardware. 	- (U) 2,044 TEST: Efforts associated with fielding terminals (U) Support provided by the 46th Test Squadron Software Support Platform integration support Product Improvement and Special Projects Support Regression Test and Integration Product Improvement/Development Support	- (U) 9,124 TOTAL	 (U) FV1997 (U) 1,144 PROGRAMS: Efforts associated with Acquisition and Integration of Class 2/2H and Fighter Data Link. (U) 1,144 PROGRAMS: Efforts associated with Acquisition and Integration of Class 2/2H and Fighter Data Link. (U) Class 2/2H Terminals. (U) Class 2/2H Terminals. (U) Class 2/2H and Acquisition and Integration of Class 2/2H and Fighter Data Link. (U) 1,144 PROGRAMS: Efforts associated with Acquisition and Integration of Class 2/2H and Fighter Data Link. (U) 1,144 PROGRAMS: Efforts associated with Acquisition and Integration of Class 2/2H and Fighter Data Link. (U) 1,144 PROGRAMS: Efforts associated with Acquisition and Integration of Class 2/2H and Fighter Data Link. (U) 1,144 PROGRAMS: Efforts associated with Acquisition and Integration of Class 2/2H and Fighter Data Link. (U) 1,144 PROGRAMS: Efforts associated with Acquisition and Integration of Class 2/2H and Fighter Data Link. (U) 1,144 PROGRAMS: Efforts associated with Acquisition and Integration of Class 2/2H and Fighter Data Link. (U) 1,144 PROGRAMS: Efforts associated with Acquisition and Integration and Integr	1013



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development O604754F Joint Tactical Information Distribution System	n Distribution System
PROJECT NO. AND NAME P771 JTIDS	
(U) F-15 FDL Acquisition and Integration Integration of Link-16 into F-15 C/D and F-15E FDL System Spec Development Interface Control Document (ICD) Development Test Plan Development Technical support to JTIDS Operations at Mountain Home AFB and Nellis AFB (U) Command and Control (C2) Terminal Acquisition Support Determine Terminal Technical and Configuration Requirements Establish delivery schedule Coordinate Spare Requirements Establish Maintenance Plans Establish Maintenance Training Schedules.	
- (U) 2,449 INTEGRATION: Continue efforts associated with integration of terminals into the various platforms. - (U) On-going integration support to AWACS, Rivet Joint, ABCCC, MAOC, MCE, JSTARS, and F-22. - (U) Technical Improvements: - Assist in processing P3I; - (U) Field Support for F-15 Operations. - Provide two shelterized JTIDS systems (SISs) to Nellis AFB - Support Data Link Utility Evaluation through Operational Special Project (OSP) and follow-on activities. - Support P-15 Electronic Combat Identification (CID) DT&E and Follow-on Activities. - (U) Provide technical assistance to Boost Phase Intercept Programs. - High Gear Program: Testing sensor tracking of Theater Missile. - Airborne Interceptor: Establish procedures for intercepting Theater Missile.	-22. -on activities
- (U) 3,689 INTEROPERABILITY: Efforts associated with ensuring Link-16 operates effectively across all Host Platforms (U) AF Platform Interoperability Support multi-service interoperability tests Support All Service Combat Identification Evaluation Team (ASCEIT) tests Support to Engineering Interoperability Review Groups (IORGS US/UK bilateral) Support to Engineering Interoperability Review	atforms. Exhibit R-2

R	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering 8	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development 10604754F Joint Tactical Information	Juite Joint Tactical Information Distribution System
PROJECT NO. AND NAME P771 JTIDS		
	 Support definition of Link-16 network structures to support Interoperability. Develop Enhanced Position Location Radio System (EPLRS)/Link-16 gateway (U) Network Support. Air Force Network Design Provide network design expertise. 	
	Determine network design for integration testing Provide network design for integration testing Maintain AF network design aid for operations Evaluate Navy network design aid for ACC users Investigate internet-networking of JTIDS and transport control internet protocol networks.	rks.
- (U) 1,507	 SUSTAINMENT: Efforts associated with ensuring fielded terminals are supported. (U) ISSA technical engineering software support at Warner Robins AFB. (U) Maintain and upgrade the SJSs, Link-16 Winnebagos. (U) Maintain and upgrade the MULTI-LINK Translator and Display System (MTDS) prototype hardware. 	oe hardware.
- (U) 2,286	TEST: Efforts associated with fielding terminals (U) Support provided by the 46th Test Squadron Software support Platform integration support Product improvement and special projects support Regression test and integration Product improvement/development support	
- (U) 11,075	TOTAL	
	Page 6 of 10 Pages	Exhibit R-2

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RDT&F BUDGET ITEM JUS		TIFICATION SHEET (R-2 Exhibit)	ON SHI	ET (R-	2 Exhib	<u> </u>	<u>-</u>	DATE March 1996	966
BUDGET ACTIVITY 5 - Fngineering and Manufacturing Developm		ent	PE NUM 0604	PE NUMBER AND TITLE 0604754F Join	⊓E int Tacti	cal Inform	nation Di	PENUMBER AND TITLE 0604754F Joint Tactical Information Distribution System	stem
PROJECT NO. AND NAME P771 JTIDS									
U) B. Program Change Summary (\$ in Thousands)									
		3001 XE	EV 1006	700	EV 1007	Total			
		FY 1995 10,978 11,634	10,	10,146	9,594	30,718	- 1 -∞		
 (U) Adjustments to Appropriated Value a. General Congressional Reduction b. Small Business Innovative Research c. Omnibus and Other Above Threshold 		-444 -215		-596 -217 -209	-519				
Reprogrammings (U) Adjustments to Budget Years Since FY96 PB (U) Current Budget Submit/President's Budget		10,975		9,124	2,000 11,075	31,280			
(U) Change Summary Explanation: Funding: FY 1997 increased \$2M for development of an EPLRS/Link-16 gateway. Schedule: Joint STARS IOT&E slipped from Feb 96 to May 96 due to test re-struct Technical: None	evelopment from Feb 90	tt of an EPLRS/Link-16 gateway. 96 to May 96 due to test re-structuring	/Link-16 ga	ıteway. e-structurin	, pô				
(U) C. Other Program Funding Summary (\$ in Thousands)	usands)						To	Total	
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	Complete	Cost	
(U) Other Proc AF, PE 27419F (ABCCC) (U) Other Proc AF, PE 27417F (AWACS)	0 24,200 5,500	0 33,600 5,600	0 4,300 3,400	3,300 3,500	0 300 3,500	0 0 2,000	000	4,800 99,100 39,400	
(U) Other Proc AF, PE 27412F (MCE) (U) Other Proc AF, PE 35154F (AIA)	2,000	, 0 4,400	6,500	22,100 6,400	15,000 6,500	0 6,200	00	150,400 31,800	
- (U) Related RDT&E: (U)- Program Element #64770F E-8 (Joint STARS) (U)- Program Element #27417F, E-3 (AWACS)	RS)		, ,	r C				Fyhibit R-2	
			rage / 0/ 10 rages	o rakes					

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUSTIFICATIO	N SHEET (R-)	2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopment	PE NUMBER AND TITLE 0604754F Join	LE int Tactical Informa	PE NUMBER AND TITLE 0604754F Joint Tactical Information Distribution System
PROJECT NO. AND NAME P771 JTIDS				
(U)- Program Element #27412F Modular Control Equipment (MCE) (U)- Program Element #27419F Airborne Battlefield Command and Control Center (ABCCC) (U)- Program Element #35154F AIA.	rol Equipment (MCE) efield Command and Control	Center (ABCCC)		
(U) D. Schedule Profile	FY 1995	$\frac{\text{FY } 1996}{2}$	FY 1997	4
(U) Acquisition Milestones - Milestone III FRP Class 2/2H - LRIP Decision Class 2M - Milestone III FRP 2M	n 🔛 🔛		×	
(U) T&E Milestones - F-15 OSP Complete - MCE IOT&E - JSTARS IOT&E - MS OT-III - RIVET JOINT IOT&E - IOT&E Class 2M	XX	× ×	X X X	
(U) Contract Milestones - FRP Class 2/2H - LRIP Contract Award Class 2M - FRP Class 2M	XX		XX	
·				
	Pag	Page 8 of 10 Pages		Exhibit R-2
		1017	•	1

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RD	RDT&E PROGRAM ELEMENT/	RAM EL		OJECT	COST B	REAKDC	PROJECT COST BREAKDOWN (R-3)	()	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ig and Manu	facturing [Jevelopment	ددر	PE NUMBER AND TITLE 0604754F Join	AND TITLE	Factical In	formation	ı Distributi	D TITLE Joint Tactical Information Distribution System	
PROJECT NO. AND NAME P771 JTIDS	JAME										
(U) A. Project Cost Breakdown (\$ in Thousands)	st Breakdown (\$	in Thousands)									· · · · · · · · · · · · · · · · · · ·
				FY 1995		FY 1996	FY 1997				
(U) Programs				3,700		1,402	1,144				
(U) Integration				2,100	0	1,233	2,449				
(U) Interoperability	Ą			*Note 1		1,603	3,689				
(U) Sustainment				3,575		2,842	1,507				
(U) Test				1,600	0	2,044	2,286				
(U) Total				10,975	ર્	9,124	11,075				
NOTE 1: In FY 1995 Interoperability is included in the Integration line	995 Interoperabil	ity is included	in the Integration	ı line.							
(U) B. Budget Acquisition History and Planning Information	equisition History	and Planning	Information (\$ in	(\$ in Thousands)							
Performing Organizations:	izations:										
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations GEC-MARCONI FFP	ent Organizations FFP		80,727	80,727	59,143	1,027	280	2,297	Continue	TBD	
LOCKHEED GEC-MARCONI	FFP FFP FFP	JON 93 JON 93 S NO 19	3,373 850 1.072	3,373 850 1.072	850 850 1,072	0 0 0	000	000	Continue 0		
and a	•				Page 9 of 10 Pages	sağı			Exhibit R-3	ı	
					1018						

RD.	RDT&E PROGRAM ELEMENT/P	RAM EL		ROJECT		SREAKD	COST BREAKDOWN (R-3)	3)	DATE	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	g and Manut	facturing l	Jevelopmen	īŧ	PE NUMBER AND 0604754F	PE NUMBER AND TITLE 0604754F Joint	Tactical lı	nformatio	n Distribu	Juile Joint Tactical Information Distribution System
PROJECT NO. AND NAME P771 JTIDS	AME									
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total Program
MCAIR RADC	CPFF PO/616	MAR 94 Various	2,434 Various	2,434 Various	2,434 1,913	757	0 0	0 0	000	2,434
WK-ALC NADEP ACSI	FFP	Various SEP 94	various Various 445	Various Various 445	1,405 413 445	1,104 382 0	45,7 0 0	0 0 0	000	3,220 795 445
Support and Management Organizations ESC Various VacCONTRACTOR Various Various	cement Organizat Various Various	ions Various Various	26,600 52,457	26,600 52,457	16,390 35,741	1,119	2,937	2,335	Continue Continue	TBD
MITRE	FPLOE	Various	89,854	89,854	70,590	4,604	3,072	2,450	Continue	TBD
Test and Evaluation Organizations MT HOME AFB PO/616 EGLIN AFB PO/616	or Organizations PO/616 PO/616	Various Various	Various Various	Various Various	83 50	333	553	1,750	Continue	416 TBD
Government Furnished Property: NOT APPLICABLE	hed Property: N	OT APPL	ICABLE							
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	welopment d Management valuation				71,048 122,721 133	3,270 7,372 333	737 7,834 553	2,551 6,774 1,750	Continue Continue Continue	TBD TBD TBD
Total Project					193,902	10,975	9,124	11,075	Continue	TBD
				č	10 of 10 D					c o
				Fu	rage 10 0/ 10 rages	ages			EXIIIDIL	۲-5





RDT&E BUDGET ITEM JUSTIFICATION	JSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
5 - Engineering and Manufacturing Development	0604770F JSTARS	

PROJECT NO. AND NAME

3551 JSTARS

COST (\$ In Thousands)	FY 1995	FY 1996	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
	Actual	Voludi	Laurilare	2 Callings				-	
3551 JSTARS	166,278	165,002	207,284	206,358	64,803	34,914	36,611	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

surveillance and attack information in all light and near-all-weather conditions. The operational utility of the system was effectively demonstrated by the outstanding lead service. Joint STARS will be capable of providing target information for pairing direct attack aircraft and standoff weapons against selected targets. The system This program is in budget activity 5 - Engineering and Manufacturing Development, Research Category 6.4 because there is an Air Force and Army need to provide, were deployed in support of Operation Joint Endeavor in Bosnia. A Defense Acquisition Board (DAB) Milestone III (Full Rate Production) is planned for 4Q FY96. will be capable of being cued by other reconnaissance, surveillance, and target acquisition systems; able to respond rapidly to worldwide contingencies; and provide decisions. To meet these needs, the Air Force and Army initiated the Joint Surveillance Target Attack Radar System (Joint STARS) program with the Air Force as performance of two developmental aircraft in support of combat operations during Desert Storm. In Dec 1995 two developmental aircraft (one E-8A and one E-8C) moving rotary and fixed wing aircraft, and rotating antennas. This information would enable operational and tactical commanders to make and execute battle from airborne platforms, near-real time surveillance and targeting information on moving and stationary ground targets (growth to maritime operations), slow

(U) FY 1995 (\$ in Thousands):

- Continued E-8C follow-on development and testing program 25,906
- Continued Ground Support Systems (GSS), Self Defense Suite (SDS), Multi-Stage Improvement Plan (MSIP), Post Delivery Test Support
 - (PDTS) and Crew Trainers Development
- Continued GFE, program support, test, and other miscellaneous efforts 42,585 9
 - 166,278 9

FY 1996 (\$ in Thousands):

- Continue E-8C follow-on development and testing program 19,481 3
 - Continue GSS and SDS Development 42,067 9
- Continue MSIP and Crew Trainers Development 37,066
- Complete PDTS contract and start E-8C Follow-on Test Support (FOTS) contract 26,660 3
 - Continue GFE, program support, test, and other miscellaneous efforts 39.728
- 65,002

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Page 1 of 7 Pages

Exhibit R-2

RDT&E BUDGET ITEM JUS	TIFICATION	N SHEET (F	TIFICATION SHEET (R-2 Exhibit)	DA	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ınt	PE NUMBER AND TITLE 0604770F JSTARS	TITLE JSTARS		
PROJECT NO. AND NAME 3551 JSTARS					
 (U) FY 1997 (\$\frac{\psi}{\psi}\$ in Thousands): (U) 9,908 Continue E-8C follow-on development and testing program (U) 88,567 Continue GSS and SDS Development (U) 15,316 Complete Crew Trainer Development (U) 40,182 Continue E-8C FOTS and MSIP (U) 53,311 Continue GFE, NATO, program support, test, and other miscellaneous efforts (U) 207,284 Total 	and testing program	ram r miscellaneous e	fforts		
(U) B. Program Change Summary (\$ in Thousands)				Total	
(U) Previous President's Budget	FY 1995 172,260	FY 1996 169,702	$\frac{\text{FY } 1997}{200,382}$	Cost	
(U) Appropriated Value(U) Adjustments to Appropriated Value	173,400	102,202			
a. Cong Gen Reductionsb. SBIR	(3,148) $(3,271)$	(4,738) (4,036)			
c. Omnibus, Other Above Threshhold Reprogramming	(2.711)	(3,926)			
e. NATO Alliance Ground Surveillance (AGS) Prog.		(4,500)	6 000		
(U) Adjustments to budget rears since for 1993 FB (U) Current Budget Submit/President's Budget	166,278	165,002	207,284	TBD	
(U) Change Summary Explanation: Funding: FV05 Reductions are for AF reprogramming for must nay hills	nav hille				

- FY95 Reductions are for AF reprogramming for must pay bills.
 The FY96 appropriation included a \$20M increase for communications, a \$12M reduction for tech order overrun, and a \$4.5M increase for NATO for a net (\$1.865M), FFRDC (\$1.170M), Overhead/Improved Management (\$2.434M), Reduced Economic Assumptions (\$1.097M) ADP (\$.037M) and deployment of increase of \$12.5M. The FY96 adjustments to Appropriated Value include transfer to NATO AGS (\$4.5M) and reductions for: SBIR (\$4.035M), Bosnia F-16s to Jordan (\$2.061M).
- The FY97 change was for a general reduction of \$0.998M, an increase for NATO AGS of \$6.3M, and an increase for Improved Data Modem (IDM) of \$1.6M, for a net increase of \$6.902M.



Page 2 of 7 Pages

Exhibit R-2







PE NUMBER AND TITLE
To To Tronding Summary (\$ in Thousands) FY 1995 FY 1997 FY 1998 FY 1999 FY 2000 FY 2001 Complement
To FY 1996 FY 1997 FY 1998 FY 2000 FY 2001 Complemental S22,997 S59,137 497,632 463,384 500,479 453,967 177,406 5, 2 2 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
Aircraft Procurement 656,929 522,997 559,137 497,632 463,384 500,479 453,967 177,406 5, Quantities Aircraft Procurement 456,929 522,997 559,137 497,632 463,384 500,479 453,967 177,406 5, Quantities Aircraft Procurement 5
FY 1995 FY 1996 FY 1997 FY 1996 X^*
DT&E Complete (FOFSD) MOT&E Start K* X* X* First SDS Installation (Group A)
(U) Flight/Mission Sim. Deliv (NOTE) (U) First Tng Sqd Ready for Tng (NOTE) (U) Depot Support Date (NOTE) (U) Required Asset Avail (RAA) (NOTE) (U) Organic Support Capability (NOTE) (U) MOT&E Complete (U) MOT&E Complete (U) Motare Support Facility Delivery (U) Software Support Facility Delivery (U) Milestone III (U) Milestone III (U) First AC Dub to FY96 and out-year budget cuts, program cost growth, and the requirement to deploy assets in support of Operation (U) Mature Reliability (U) Mature Reliab
Page 3 of 7 Pages Exhibit R-2

RD	RDT&E PROGRAM ELEMENT	GRAM EL	EMENT/F	/PROJECT		COST BREAKDOWN (R-3)	OWN (R-	3)	DATE	March 1006	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ng and Man	ufacturing	Developme	ınt	PE NUMBER AN 0604770F	PE NUMBER AND TITLE O604770F JSTARS	RS				
PROJECT NO. AND NAME 3551 JSTARS	AME										
(U) A. Project Cost Breakdown (\$ in Thousands)	ost Breakdown	(\$ in Thousan	<u>(Sp</u>	FY 1995		FY 1996	FV 1997				
(U) Product Development(U) Support and Management(U) Test and Evaluation(U) Fotal	opment fanagement ıation			77,821 32,362 56.095 166,278	,, ,,,,,	98,198 29,536 37,268 165,002	135,830 30,900 40,554 207,284				
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	quisition Histor	ry and Plannin	og Information	ı (\$ in Thousa	(Spu						
Performing Organizations:	iizations:										
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Progra</u> m	
Product Development Organizations GMSD* C/FPI	ent Organization. C/FPI	<u>s</u> Sep 85	1,156,200	1,156,200	962,646					962,646	
GMSD F19628-90-C-0197	SS/CPIF	Nov 90	845,460	845,460	743,136	25,906	21,681	34,940	19,797	845,460	
GMSD F19628-91-C-0034	SS/CPIF	Oct 93	25,662	25,662	25,662					25,662	
Boeing N0001983C0176	SS/FP	Jan 83	95,617	95,617	95,617					95,617	
GMSD F19628-93-C-0067	SS/CPIF	Oct 93	146,791	146,791	45,463	28,624	31,876	27,328	13,500	146,791	
SDS Studies Various Contracts		Ongoing			4,021	1,279				5,300	
* Grumman Melbourne Systems Division	rne Systems Div	vision									
				Pa	Page 4 of 7 Pages	રક્ડ			Exhibit R-3	7-3	







RD	RDT&E PROC	PROGRAM ELEMENT/PROJECT	EMENT/F	ROJECT	COST BREAKDOWN (R-3)	REAKDO	WN (R-3	∞	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developmo	a and Manu	facturing	Jevelopme	ent	PE NUMBER AND TITLE 0604770F JSTA	PE NUMBER AND TITLE O604770F JSTARS	SS				
PROJECT NO. AND NAME 3551 JSTARS	AME										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
MSIP Block I	SS/CPIF	Mar 96	61,629	61,629	6,315	4,342	28,678	15,294	7,000	61,629	
S/W Spt Facility	TBD	TBD	37,212	37,212			212	17,000	20,000	37,212	
GMSD Depl Mission Spt Cap (DMSC)	SS/CPIF	96 unf	31,445	31,445			6,445	15,000	10,000	31,445	
GMSD Flt Crew Sim Dual and Assoc.	SS/CPAF/FFP	May 94	27,568	27,568	5,639	2,784	4,034	15,111		27,568	
F33657-93-C-0046 Maint Trainers MSIP BIk2 Upgr TADIL-J GSS	Various TBD TBD	TBD TBD	20,166 66,952 10,900	20,166 66,952 10,900	4,194	12,683	3.189	3,000	65,952 7,900	20,166 66,952 10,900	
Courseware NATO GMSD	SS/T&M	Mar 96	6,300	6,300				6,300		6,300	
Support and Management Organizations MITRE Ong	gement Organiz	ations Ongoing			128,580	12,611	11,712	10,600	30,998	194,501	
F19628-85-C-0001 TEMS - Various INFOTEC	C/FP	Ongoing Apr 85	Ongoing		67,490 35,571	7,578 2,464	7,861	7,100	23,148	113,177 38,035	
F19628-85-C-0022 Other Spt & Mgt					116,158	6,709	9,963	13,200	35,453	184,483	
Test and Evaluation Organizations	n Organizations	201									
					Page 5 of 7 Pages	ges			Exhibit R-3	R-3	
					1004						

RD	RDT&E PROGRAM ELEMENT/P	GRAM EL	EMENT/P	ROJECT	COST BREAKDOWN (R-3)	REAKDO	WN (R-	(E)	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ng and Manu	Ifacturing I	Developme	int	PE NUMBER AND TITLE 0604770F JST	AND TITLE F JSTARS	SS				
PROJECT NO. AND NAME 3551 JSTARS	VAME										
Contractor or Government Performing Activity 3246 Test Wing	Contract Method/Type or Funding Vehicle PO	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995 20,828	Budget FY 1995 2,928	Budget FY 1996 1,038	Budget <u>FY 1997</u> 1,066	Budget to Complete 12,110	Total Program 37,970	
Egun Arb Kange Spt - PO Elect Technical	MIPR				10,404					10,404	
PDTS	SS/FFP	Jun 94	68,870	68,870	26,448	27,702	14,720			68,870	
E-8C FOTS	SS/FFP/CPFF	Jun 96	216,293	216,293		19,000	11,940	32,888	152,465	216,293	
JTF Support Other Test Spt	Allotment	Ongoing			34,319 20,836	6,295	9,500	6,530 70	32,797 430	89,441 21,576	
(U) B. Budget Acquisition History and Planning Information	equisition Histor	ry and Plannin	ng Information	Continued (\$ in Thousands)	in Thousands	~1					
Government Furnished Property: Contract Method/Type Item or Funding Description Vehicle	uished Property: Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Delivery <u>Date</u>		Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Property JTIDS MILSTRIP GMSD Various	ent Property Various		Ongoing Ongoing		17,001 2,778	975 1,228	811 272	1,507	386 250	20,680 4,778	
Support and Management Property	gement Property										
Test and Evaluation Property	n Property										
				Pas	Page 6 of 7 Pages	S			Exhibit R-3	k-3	





RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	T COST BR	EAKDO	WN (R-3)		DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604770F JST/	PE NUMBER AND TITLE O604770F JSTARS	S				
PROJECT NO. AND NAME 3551 JSTARS							
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	1,912,472 347,799 112,835	77,821 32,632 56,095	98,198 29,536 37,268	135,830 30,900 40,554	144,785 89,599 197,802	2,369,106 530,196 444,554	
Total Project	2,373,106	166,278	165,002	207,284	432,186	3,343,856	
	Page 7 of 7 Pages	SS		3	Exhibit R-3	R-3	

0604779F Joint Interoperability Tactical Command/Control **March 1996** DATE RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 5 - Engineering and Manufacturing Development PROJECT NO. AND NAME 2189 JINTACCS BUDGET ACTIVITY

(U) A. Mission Description and Budget Item Justification

TBD

Continuing

6,501

6,404

6,226

6,174

5,976

5,824

1,918

Total Cost

Cost to Complete

FY 2001 Estimate

FY 2000 Estimate

FY 1999 Estimate

FY 1998 Estimate

FY 1997 Estimate

FY 1996 Estimate

FY 1995 Actual

COST (\$ In Thousands)

2189 JINTACCS

205-72, dated 1 April 1971, as modified by a Secretary of Defense memorandum, "Reorganization of the DoD Program to Achieve Interoperability of Tactical C2 Systems System (JTIDS) participate in this program. The JINTACCS program, formerly Ground and Amphibious Military Operation (GAMO), is directed by JCS Memorandum Integration of C3I Systems," November 18, 1992. The JINTACCS program entails the compatibility and interoperability of C3 systems including tactical intelligence for Tactical Digital Information Links (TADILs), and other combat data link standards. This includes the coordination of all combat data link and MTF testing certification joint or combined operations through the development and management of a joint architecture, requirements process, interface definitions, message text formats (MTFs), Control (C2) Systems used in support of joint operations. JINTACCS supports Air Force participation with the Army, Navy and Marines, and the Joint Interoperability duplication of efforts. Elements of the Tactical Air Control System, E-3 Airborne Warning and Control System (AWACS) and Joint Tactical Information Distribution documentation including Technical Interface Concepts and Technical Interface Design Plans. Close liaison across each of the Service JINTACCS programs precludes and configuration management of standards efforts under one program element. This project supports the efforts to ensure C3 systems' interoperability among all the This program is in budget activity 5 - Engineering and Manufacturing Development, because it is designed to improve the interoperability of Tactical Command and for GAMO," dated 2 Aug 1977. The program complies with requirements of DoD Directive 4630.5, "Compatibility, Interoperability, and Integration of Command, Control, Communications, and Intelligence (C3I) Systems," November 12, 1992, and DoD Instruction 4630.8, "Procedures for Compatibility, Interoperability, and and Engineering Organization (JIEO) which acts as the Executive Agent. Service and agency activities are governed by Joint Chiefs of Staff (JCS) approved CINCs, DoD agencies, and the services. Development/certification testing is a pre-production requirement IAW DoDD 4630.5 and DoDI 4630.8.

- Begin Joint testing of JMI.
- Begin exercise participation of expanded USMTF processing Proof-of-Concept.
- Begin Theater Battle Management (TBM) C4I architecture development/data model development.
- Continue technology exchange/integration with Joint Staff GCCS project.
- Continue Air Force testing of the TADIL-J message standard.
- Continue CAF preliminary testing of TADIL-J in ABCCC and E-3.
- Continue review of impact of emerging DoD data element standardization on USMTF standard.
- Continue feasibility analysis of ADA 9X for use in object-oriented prototype development.

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Exhibit R-2







RDT&E BUDGET ITEM JUS BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	STIFICATION lent	SHEET (R-2 Exhibit) PE NUMBER AND TITLE 0604779F Joint Interoperability Tactical Command/Control	March 1996 Command/Control
PROJECT NO. AND NAME 2189 JINTACCS			
(U) \$ 415 Continue acqui (U) \$ 100 Continue devel (U) \$ 50 Continue modi (U) \$ 25 Continue devel (U) \$ 60 Continue netw (U) \$ 100 Continue advai (U) \$ 43 Continue expai (U) \$ 240 Continue integ (U) \$ 240 Continue integ (U) \$ 1.918 Total	Continue acquisition of JTD/enhancements. Continue development of automated test analysis system. Continue modification of message standards supporting TMD. Continue development of DMTD and VMF standards. Continue development of TADIL-J capability. Continue network design and aids development for JTIDS network design facility and architecture. Continue advanced MTF processing development. Continue expansion of MTF certification testing to fielded systems. Continue integration of MCE OPFAC into test facilities. Complete acquisition of IADS test equipment.	design facility and architecture.	
(U) \$ 175 Begin CAF testing of MCE (U) \$ 150 Begin CAF testing of IADS (U) \$ 300 Begin acquisition of JSTAR (U) \$ 200 Begin integration of JSTAR (U) \$ 500 Begin development/evaluation (U) \$ 200 Continue exercise participal (U) \$ 200 Continue TBM C4I architectus (U) \$ 200 Continue technology exchance (U) \$ 200 Continue technology exchance (U) \$ 200 Continue feasibility analysitus (U) \$ 200 Continue feasibility analysitus (U) \$ 200 Continue development of ITI (U) \$ 200 Continue development of ITI (U) \$ 300 Continue develop	Begin CAF testing of MCE Pre-Planned Product Improvements (P3I). Begin CAF testing of IADS. Begin acquisition of JSTARS test equipment. Begin acquisition of JSTARS test equipment. Begin integration of JSTARS OPFAC into test facility. Begin integration of JSTARS OPFAC into test facility. Begin development/evaluation of follow-on USMTF replacement. Continue exercise participation for expanded USMTF processing Proof-of-Concept. Continue TBM C4I architecture development/data model development. Continue technology exchange/integration with Joint Staff GCCS project. Continue CAF preliminary testing of TADIL-J in ABCCC and E-3. Continue feasibility analysis of ADA 9X for use in object-oriented prototype development. Continue development of JTD/enhancements. Continue development of JMTD and VMF standards. Continue development of DMTD and VMF standards. Continue development of TADIL-J capability.	I). roof-of-Concept. ent. roject. ization on USMTF standard. prototype development.	
	Page 2 of 6 Pages		Exhibit R-2

RE	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 5 - Engineering al	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604779F Joint Interoperability Tactical Command/Control	Il Command/Control
PROJECT NO. AND NAME 2189 JINTACCS			
- (U) \$ 500 - (T) \$ 534	Continue network design and aids development for JTIDS network design facility and architecture.	IDS network design facility and architecture.	
÷ 6/	Continue expansion of MTF certification testing to fielded systems.	ilded systems.	
- (U) \$ 200 - (U) \$ 5,824	Complete integration of MCE OPFAC into test facilities Total	les.	
(U) FY 1997			
- (U) \$ 200	Begin CAF testing of Joint Surveillance Target Attack	nce Target Attack Radar System (JSTARS).	
- (U) \$ 168	Begin Joint testing of IADS.		
∽			
€-	Continue development/evaluation of follow-on USMTF replacement.	F replacement.	
69	Continue development of interactive USMTF tool.		
69	Continue exercise participation for expanded USMTF processing Proof-of-Concept.	processing Proof-of-Concept.	
6/3	Continue TBM C4I architecture development/data model development.	del development.	
69 ⋅	Continue technology exchange/integration with Joint	ation with Joint Staff GCCS project.	
∽ ·	Continue CAF preliminary testing of TADIL-J in ABCCC and E-3	CCC and E-3.	
69 -	Continue review of impact of emerging DoD data element standardization on USMTF standard.	nent standardization on USMTF standard.	
↔	Continue feasibility analysis of ADA 9X for use in obj	9X for use in object-oriented prototype development.	
69 (Continue acquisition of JTD/enhancements.		
(U) \$ 400 (T) \$ 300	Continue development of automated test analysis system. Continue modification of message standards cumorting TMD	im. TAAD	
÷ •	Continue development of DMTD and VMF standards.		
€9	Continue development of TADIL-J capability.		
- (U) \$ 500	Continue network design and aids development for JTIDS network design facility and architecture.	IDS network design facility and architecture.	
009 \$ (n) -	Continue advanced MTF processing development.		
- (U) \$ 300	Continue expansion of MTF certification testing to fielded systems.	ded systems.	
∽	Complete acquisition of JSTARS test equipment.		
59	Complete integration of JSTARS OPFAC into test facility.	ılity.	
- (U) \$ 5,976	Total		
	Pa	Page 3 of 6 Pages	Exhibit R-2

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	IFICATIO	N SHEET (R-2 Exhibit		DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	יַּ	PE NUMBER AND TITLE 0604779F Joint) тітге Joint Interop	erability Tacti	PENUMBER AND TITLE 000000000000000000000000000000000000
PROJECT NO. AND NAME 2189 JINTACCS					
(U) B. Program Change Summary (S in Thousands)				Total	
the state of the s	FY 1995	FY 1996	FY 1997	Cost 14 505	
(U) Appropriated Value	2,063	20,0	6)	
(U) Adjustments to Appropriated Value	, -	9			
a. General Congressional Reduction b. Small Business Innovative Research	-10/ -38	-268			
c. Omnibus and other Above Threshold		-130			
Reprogrammings (U) Adjustments to Budget Years Since FY96 PB	,	•	-254		
(U) Current Budget Submit/President's Budget	1,918	5,824	5,976	13,784	
(U) Change Summary Explanation:					
Funding: None Schedule: None. Technical: None.					
(U) C. Other Program Funding Summary (\$\summarrow{8}\$ in Thousands)	NOT APPLICABLE	ABLE			

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Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-2 Exhibit)	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604779F Joint Interoperability Tactical Command/Control	ommand/Control
PROJECT NO. AND NAME 2189 JINTACCS		
(U) D. <u>Schedule Profile</u>		
FY 1995	$\frac{\text{FY } 1996}{2} \qquad \frac{\text{FY } 1997}{3} \qquad 4 \qquad 1 \qquad 2 \qquad 3 \qquad 4$	
FICATION TESTING	1	
- JMI CAF X		
Joint X		
CAF	×	
Joint - IADS	X	
CAF	×	
Joint	X	
- JSTARS	;	
(U) OPFAC INSTALL/INTEGRATION	×	
- ABCCC		
Complete		
- MCE $ ho^3$ I		
Complete	×	
Begin		
Complete		
- JSTARS		
Begin	**	
Complete	×	
d	Page 5 of 6 Pages Exhi	Exhibit R-2

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	JECT CO	ST BREAKI	OWN (R-3)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE N	PE NUMBER AND TITLE 0604779F Join	t Interoperability	PE NUMBER AND TITLE 0604779F Joint Interoperability Tactical Command/Control
PROJECT NO. AND NAME 2189 JINTACCS				
(U) A. Project Cost Breakdown (\$ in Thousands)				
	FY 1995	FY 1996	FY 1997	
(U) Certification Testing Support Equipment Acquisition	800	400	546 3,862	
	400	692	918	
(U) Joint Service 1 ADIL/M115 Contiguiation Management (U) Travel	120	150 5.824	150 5.976	
(C) Local (C) Local (C) The Budget Acquisition History and Planning Information (S in Thousands)		NOT APPLICABLE		
				•
	Page 6	Page 6 of 6 Pages		Exhibit R-3

DATE RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

March 1996

5 - Engineering and Manufacturing Development

BUDGET ACTIVITY

PE NUMBER AND TITLE 0604851F ICBM Modernization EMD

COST (\$ In Thousands)	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	Cost to	Total Cost
	Actual	Estilliate	Louiniate	Collinate	Estilliare	Estilliate	Latiniate	Contibiete	
Total Program Element (PE) Cost	140,565	180,911	198,595	120,510	67,916	32,009	0	TBD	TBD
133B Rapid Execution and Combat Targeting	21,758	3,988	0	0	0	0	0	0	292,962
3085 Guidance Replacement Program	90,198	110,753	108,211	44,352	0	0	0	0	494,546
4210 Propulsion Replacement Program	58,609	66,170	87,567	76,158	67,916	32,009	0	0	367,799
13C4 Strategic C4 Program	0	0	2,817	0	0	0	0	ТВD	ТВD

NOTE:

- FY94 funding under PE 0101213F, Minuteman Squadrons.
- Project/program funding for FY95 does not accurately reflect adjustments to appropriated value for all projects. See individual project Program Change Summary for details/explanation.

(U) A. Mission Description and Budget Item Justification

will modernize the command, control, communications, and computer systems associated with assured force execution/termination of the ICBM forces. These efforts correct age-related degradations and maintain existing weapon system reliability. The Strategic C4 (Command, Control, Communications, and Computers) Program Replacement Program (GRP) will replace failing guidance system electronics. The Propulsion Replacement Program (PRP) will remanufacture solid fuel stages to (U) ICBM modernization efforts will extend the operational life of the Minuteman ICBM weapon system. The Rapid Execution and Combat Targeting (REACT) Program replaces unsupportable Minuteman launch control center equipment with a modern command, control, and communications system. The Guidance were defined and validated in DoD's Nuclear Posture Review. These programs are in Budget Activity/Research Activity Engineering and Manufacturing Development (EMD).

(U) Acquisition Strategy:

(U) REACT. This program covers the production and installation of the REACT Class V modification. The contractual vehicle, a fixed-price incentive (firm target)/award fee (FPIF/AF), was issued as a sole source acquisition. Deployment will complete in FY96.

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RDT&E BUDGET ITEM JUSTIFICATION SP	STIFICATION SHEET (R-2 Exhibit)	March 1996
вироет Астіvіту 5 - Engineering and Manufacturing Development 060	PE NUMBER AND TITLE 0604851F ICBM Modernization EMD	

(U) Guidance Replacement Program. An EMD contract was awarded to develop, test, and replace selected guidance electronics and software. A cost plus-award-fee (CPAF) contract was issued following full and open competition.

(U) Propulsion Replacement Program. Planned acquisition will consist of all hardware and software modifications; integration and flight test support; delivery of remanufactured Stage 1, 2, and 3 motors; nuclear certification analysis tasks; and independent software certification. All contractual actions are sole source negotiated procurements using cost plus-award-fee (CPAF) contracts.

(U) Strategic C4. The program will initially focus on the modification and integration of existing Miniature Receive Terminals (MRT) into Modified Miniature Receive Terminals (MMRT) for use in ICBM launch control centers (LCC). The type of engineering and manufacturing development (EMD) contract, and the production contract are TBD. An acquisition strategy similar to that used for the E-4B/E-6B MEECN-sponsored MMRT program is anticipated.

(U) B. Program Change Summary (S in Thousands)

							(
Total	180 180 180							į	UBI.
	FY 1997 162,213						000	30,382	198,595
	FY 1996* 192,719	192,719	i c	-3,773	-5,210	200	C79 ,7-		180,911
	FY 1995 140,153	138,048	1	clc,1-	-2,881		6,913	* .	140,565
	(I) Previous President's Budget	(U) Appropriated Value	(U) Adjustments to Appropriated Value	a. Congressional/General	b. SBIR	c. Below Threshold Reprogramming	 d. Omnibus and other Above Threshold 	(U) Adjustments to Budget Years Since FY96 PB	(U) Current Budget Submit/President's Budget

(U) Change Summary Explanation:

Funding: See individual projects.

* The FY96 amount does not reflect funding reductions that are reserved for other DoD reprogramming needs (\$2,199)

Schedule: See individual projects.

Technical: See individual projects.

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6.604851F ICBM Modernization EMD C. Other Program Funding Summary (3 in Thousands) (U) C. Other Program Funding Summary (3 in Thousands) (U) APPN #14 (Missile Procurement - AP), 0 16,453 60,152 183,796 310,930 454,790 514,897 2,139,200 4,002,918 Procurement), WSC MSOMLG Related RDT&EE: None (U) D. Schedule Profile: See individual projects	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)		DATE	March 1996	
To To 453 60,152 183,796 310,930 FY 2000 FY 2001 Compl. 16,453 60,152 183,796 310,930 454,790 514,897 2,139,200	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND 0604851F	TITLE ICBM Moderni	zation EMI			
To Y 1996 FY 1997 FY 1998 FY 1999 FY 2000 FY 2001 Compl 16,453 60,152 183,796 310,930 454,790 514,897 2,139,200							
To FY 1996 FY 1997 FY 1998 FY 1999 FY 2000 FY 2001 Compl	(U) C. Other Program Funding Summary (\$ in Thousands)						<u> </u>
Related RDT&E: None (U) D. Schedule Profile: See individual projects	FY 1995 FY 1996 E	FY 1998 1 183,796			To <u>Compl</u> 2,139,200	Total <u>Cost</u> 4,002,918	
(U) D. Schedule Profile: See individual projects	Related RDT&E: None						
	(U) D. Schedule Profile: See individual projects						
Page 3 of 20 Pages Exhibit R-2	Pag	e 3 of 20 Pages			Exhibit	R-2	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SE	HEET (R	-2 Exhit	oit)		DATE M	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	nent	PE NU 060	PE NUMBER AND TITLE 0604851F ICBM Modernization EMD	TTLE SBM MÖD	ernizatio	n EMD			
PROJECT NO. AND NAME 133B Rapid Execution and Combat Targeting			-						
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
133B Rapid Execution and Combat Targeting	21,758	3,988	0	0	0	0	0	0	292,962

(U) A. Mission Description and Budget Item Justification

The program combines five related efforts to improve maintainability, supportability, reliability, responsiveness and operability of the weapon system: weapon system system modifications have been installed on a stand-alone basis without consideration for human engineering interfaces and space limitations of the LCC. Additional computer memory capacity has reached its limits. The Rapid Execution and Combat Targeting (REACT) program was initiated in 1988 to address these concerns. (U) Minuteman launch control centers (LCCs) have been deployed since the early 1960's. Since the original deployment, numerous communications and weapon Minuteman LCC (AM & B weapon systems). The rapid message processing element and rapid retargeting will streamline current procedures and provide greater capacity and eliminates supportability difficulties of the current weapon system controller. REACT will be integrated into both currently deployed versions of the computer replacement. The program will modify LCCs and associated trainers. The new weapon system control element provides significantly increased system controller hardware replacement, rapid message processing, rapid retargeting software, launch control center console integration, and missile procedures trainer studies show that the weapon system control element is reaching the end of its useful life. Manufacturers no longer produce many of the replacement parts and communications requirements and changes in crew procedures have, over time, resulted in task saturation of the crew members. Air Force Material Command operational configurations and ensure crew members receive maximum benefit from training time. This project sustains a fielded operational weapon system. flexibility for crew members responding to critical National Command Authority directives. The missile procedures trainer modification will reflect current

(U) FY 1995

- Continued weapon system control element hardware and software development (B system). (U) \$12,232
 - Continued REACT communications element development (B system). (U) \$2,889
- Continued nuclear safety cross check analysis of operational software. (U) \$2,527
- Completed AM weapon system deployment, conducted B system software configuration audits, began B weapon system Initial Operational Test and Evaluation (IOT&E). Completed formal B weapon system test, obtained nuclear certification of B weapon system software. (U) \$4,110
- (U) \$21,758

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Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SATION SHEE	T (R-2 Exhibi	t)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604851F ICBN	PENUMBER AND TITLE OG04851F ICBM Modernization EMD	rnization EMD	
PROJECT NO. AND NAME 133B Rapid Execution and Combat Targeting				
(U) <u>FY 1996</u>				
 (U) \$3,384 Obtain FAD of B system, complete B system deplo (U) \$604 Other (U) \$3,988 Total 	deployment, achieve Last Asset Delivery (LAD).	sset Delivery (LAD).		
(U) <u>FY 1997</u> - N/A				
(U) B. Program Change Summary (\$ in Thousands)				
(U) Previous President's Budget	FY 1995 FY 1996 21,792 4,092	FY 1997 0	Total	
ropriated Value eneral				
b. SBIRc. Below Threshold Reprogrammingd. Omnibus and other Above Threshold	-34			
(U) Adjustments to Budget Years Since FY96 PB (U) Current Budget Submit/President's Budget	21,758 3,988	0	292,962	
(U) Change Summary Explanation:				
Funding: Not applicable Schedule: Not annicable				
Technical: Not applicable				
	Page 5 of 20 Pages	ses		Exhibit R-2

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RDT&E BUDGET ITEM JUST	FICATION	TIFICATION SHEET (R-2 Exhibit)	March 1996
вироет астіуіту 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE 0604851F ICBM Modernization EMD	
PROJECT NO. AND NAME 133B Rapid Execution and Combat Targeting			
(U) C. Other Program Funding Summary (\$ in Thousands)		To	Total
(U) APPN #14 (Missile Procurement - AF), 0 16,453 Cost Cat 2100 (Missile Modifications), PE 0101213F (Minuteman Squadrons), BA-03 (Weapons Procurement), WSC M30MLG	ry 1996 <u>FY 1997</u> 16,453 0	FY 1998 FY 1999 FY 2000 FY 2001 Compl 0 0 0	Cost 339,153
(U) D. Schedule Profile FY 1995	4	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
*	* * *	×	
	Page	Page 6 of 20 Pages Exhibit R-2	R-2

RDT&E PF	RDT&E PROGRAM ELEMENT/P	LEMENT	PROJECT COST BREAKDOWN (R-3)	COSTB	REAKDO	OWN (R-	3)	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	anufacturing	Developm	ent	PE NUMBEI 060485	PE NUMBER AND TITLE 0604851F ICBM Modernization EMD	Moderniz	ation EMI			
PROJECT NO. AND NAME 133B Rapid Execution and Combat Targeting	d Combat Targ	eting			,					
(U) A. Project Cost Breakdown (\$0 in Thousands)	wn (\$0 in Thous	ands)	FY 1995		FY 1996	FY 1997				
 (U) B Weapon System Development (U) Nuclear Safety Cross Check Analysis (U) B Systems Test (U) Complete AM & B Deployment (U) Total 	pment A Analysis ment		15,121 2,527 4,110 21,758		2,388 1,600 3,988	0 0				
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	listory and Plann	iing Informatio	n (\$ in Thousan	(Spi						
Performing Organizations:										
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle	ype Award or g Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations Loral	a <u>tions</u> AF 4 Apr 89	160,200	159,200	267,216	21,758	3,988	0	0	292,962	
Support and Management Organizations: None Test and Evaluation Organizations: None	anizations: None ions: None									
Government Furnished Property: Not Applicable	e rty: Not Applica	ble								
Subtotal Product Development Subtotal Support and Management	ıent			267,216	21,758	3,988	0	0	292,962	
Subiotal Fest and Evaluation Total Project				267,216	21,758	3,988	0	0	292,962	
			$Pa_{\rm j}$	Page 7 of 20 Pages	ges			Exhibit R-3	R-3	





	RDT&E BUDGET ITEM JUS	TIFICAL	IS NOI	HEET (R	TIFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering	вироет астіміту 5 - Engineering and Manufacturing Development	ent	PE NU 060	PE NUMBER AND TITLE 0604851F ICBN	IITLE SBM Mod	PENUMBER AND TITLE 0604851F ICBM Modernization EMD	n EMD			
PROJECT NO. AND NAME 3085 Guidance Rep	PROJECT NO. AND NAME 3085 Guidance Replacement Program									
	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3085 Guidance Replacement Program	acement Program	90,198	110,753	108,211	44,352	0	0	0	0	494,546
(U) A. Mission De	(U) A. Mission Description and Budget Item Justification									· · · · · · · ·
(U) Ongoing I Need Statemen electronics, and Engineering at installation of 1	(U) Ongoing Minuteman life extension efforts are required to extend the life of the Minuteman. The Joint Requirements Oversight Council validated the Mission Need Statement for a Future Guidance System for Intercontinental Ballistic Missiles (ICBM) on 5 November, 1992. GRP replaces failing guidance system electronics, and preserves the option to configure the missiles with the Peacekeeper Mk 21 reentry vehicle and an advanced inertial measurement unit. The Engineering and Manufacturing Development (EMD) contract was awarded to Rockwell International in August 1993. GRP includes the EMD, production, and installation of replacement guidance components to extend the life of the operational Minuteman force. Funding reflected here is for EMD.	d to extend the trinental Ball liles with the Itract was awar the Itre life of the Itre Itre of the Itre Itre Itre Itre Itre Itre Itre Itr	ne life of the istic Missile Peacekeeper Inded to Rooke operation	e Minutema es (ICBM) o r Mk 21 rees ckwell Inter	n. The Joint in 5 Novemb try vehicle an attional in A an force. Fu	I to extend the life of the Minuteman. The Joint Requirements Oversight Counci tinental Ballistic Missiles (ICBM) on 5 November, 1992. GRP replaces failing gles with the Peacekeeper Mk 21 reentry vehicle and an advanced inertial measure ract was awarded to Rockwell International in August 1993. GRP includes the the life of the operational Minuteman force. Funding reflected here is for EMD.	RP replaces need inertial GRP inclu	nt Council va failing guids I measureme des the EMI for EMD.	ulidated the Nance system ant unit. The D, production	lission , and
(U) FY 1995										
- (U) \$78,086 - (U) \$3,190 - (U) \$2,275 - (U) \$7,714 - (U) \$1,706 - (U) \$1,706 - (U) \$1,706 - (U) \$1,706 - (U) \$1,706	Hardware/software development. Nuclear safety cross check analysis and independent validation and verification. ICBM codes development. Systems engineering and technical support. Other engineering support. Partial Adjustment to Appropriated Value funded from Propulsion Replacement Program (BPAC 4210, this PE). Total	lependent va i. funded from	lidation and Propulsion	l verificatior Replacemer	ı. ıt Program (l	BPAC 4210,	this PE).			
(U) FY 1996										•
- (U) \$90,142 - (U) \$3,788 - (U) \$1,288 - (U) \$6,967 - (U) \$3,097 - (U) \$4,585 - (U) \$4,585 - (U) \$4,585 - (U) \$110,753	Hardware/software development. Nuclear safety cross check analysis and independent validation and verification. ICBM codes development. Systems engineering and technical support. Labs and support agencies. Testing and other engineering support. Other	dependent va t.	lidation and	1 verification	خ					
			Page 8 of	Page 8 of 20 Pages				Exhibit R-2	R-2	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	IFICATIO	N SHEET (R-2 Exhib	it)	DATE March 1996	96
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developmen	nt	PE NUMBER AND TITLE 0604851F ICBN	TITLE ICBM Mode	PENUMBER AND TITLE OG04851F ICBM Modernization EMD		
PROJECT NO. AND NAME 3085 Guidance Replacement Program			-			
(U) FY 1997						
 (U) \$57,541 Hardware/software development. (U) \$3,788 Nuclear safety cross check analysis and independent validation and verification. 	endent validati	ion and verification	'n.			-
- (U) \$1,400 ICBM codes development (U) \$5,766 Systems engineering and technical support.						
(U) B. Program Change Summary (\$ in Thousands)						
(U) Previous President's Budget	FY 1995 92.525	FY 1996 120.755	FY 1997 70.113	Total Cost		
(U) Appropriated Value (II) Adjustments to Annonriated Value	90,383	120,755				
Congressional/General	-4,305*	-2,364				
 b. SBIK c. Omnibus and other Above Threshold 	-7,881	-5,210 -2,428				
d. Below Threshold Reprogramming	7,001		30 000			
(U) Current Budget Submit/President's Budget	90,198	110,753	36,096 108,211	491,773		
* Includes \$2,773 in General Congressional Reductions funded	y Propulsion I	by Propulsion Replacement Program (BPAC 4210, this PE).	ram (BPAC 42	10, this PE).		

(U) Change Summary Explanation:

Funding: Guidance Replacement Program restructured; FY97-98 funding estimates adjusted accordingly. Non-pay inflation adjustments made in FY97-01.

Schedule: Program schedule restructured consistent with new funding profile.

Technical: No change.

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RDT&E BUDGET ITEM JUSTIFICATIO	TIFICATION SHEET (R-2 Exhibit) DATE March 1996	966
BUDGET ACTIVITY 5 - Fnoineering and Manufacturing Development	PENUMBER AND TITLE 0604851F ICBM Modernization EMD	
PROJECT NO. AND NAME 3085 Guidance Replacement Program		
(U) C. Other Program Funding Summary (\$ in Thousands)		
(U) APPN #14 (Missile Procurement - AF), Cost Cat 21000 (Missile Modifications), PE 0101213F (Minuteman Squadrons), BA-03 (Weapons Procurement), WSC M30MLG	P7 FY 1998 FY 1999 FY 2000 FY 2001 Complement Cost 52 183,796 310,930 321,597 315,510 23,100 1,193,165	
(U) D. Schedule Profile $\frac{FX 1995}{1 2 3 4 1}$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	***************************************
(U) Program Milestones (U) Milestone III AFSARC (U) Engineering Milestones (U) PDR (U) FCA (U) FCA (U) PCA (U) T&E Milestones (U) Combined DT&E/IOT&E Start (U) First Flight Test (U) Contract Milestones (U) Low Rate Initial Production * Complete	X	
1.03		

RD	RDT&E PROGRAM ELEMENT/P	GRAM EI	LEMENT/	PROJECT	COSTE	REAKD(ROJECT COST BREAKDOWN (R-3)	3)	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ng and Manı	ufacturing	Developm	lent	PE NUMBE 06048	PE NUMBER AND TITLE 0604851F ICBM	PENUMBER AND TITLE OG04851F ICBM Modernization EMD	ation EM			
PROJECT NO. AND NAME 3085 Guidance Rep	ST NO. AND NAME Guidance Replacement Program	Program									
(U) A. Project Cost Breakdown (\$ in Thousands)	ost Breakdown	(\$ in Thousar	(Spi								
 (U) Hardware/Software De (U) ICBM Codes Contract (U) Nuclear Safety Cross (U) Labs/Agencies (U) SETA (U) Other Engineering Suj (U) Administrative Adjust 	Hardware/Software Development ICBM Codes Contract Nuclear Safety Cross Check Analysis Contract Labs/Agencies SETA Other Engineering Support & Testing Administrative Adjustment*	ent nalysis Contra Testing	ct	FY 1995 78,086 2,275 3,190 285 7,714 1,421	더	FY 1996 90,142 1,288 3,788 3,097 6,967 5,471	FY 1997 57,541 1,400 3,877 11,425 5,766 28,202				
(U) Total				90,198		110,753	108,211				
* See note accon	See note accompanying Program Change Summary.	m Change Sur	nmary.								
(U) B. Budget Acquisition History and Planning Information	cquisition Histor	ry and Planni	ing Informatic	on (\$ in Thousands)	(spu						
Performing Organizations:	nizations:										<u>.</u>
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office EAC	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations Rockwell CPAF Codes Contract	ent Organizations CPAF	31 Aug 93		348,705 5,960	105,297 425	78,086 2,275	90,142	57,541 1,400	17,848	348,914 5,960	
				Pa	Page 11 of 20 Pages	ages			Exhibit R-3	R-3	





	TROCKAIN FLEINEN		I/PROJECT (COST BREAKDOWN (R-3)	REAKDC)WN (R∴	3		March 1996	
BUDGET ACTIVITY 5. Engineering and Manufacturing Develop	Manufacturing	Developme	ment	PE NUMBER AND TITLE 0604851F ICBN	IF ICBM	PE NUMBER AND TITLE 0604851F ICBM Modernization EMD	tion EME			
PROJECT NO. AND NAME 3085 Guidance Replacement Program	ment Program									
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle	t /Type Award or ling Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Support and Management Organizations NSCCA/IV&V CPAF 31 SETA CPAF 4 J CSDL FP 30 Other Engineering 31	rganizations 31 Mar 94 4 Jan 94 30 Jun 94 31 Aug 93		16,233 42,868 5,264 61,031	2,940 19,401 5,264 4,670	3,190 7,734 0 1,401	3,788 6,967 0 6,559	3,877 5,766 0 28,492	2,438 3,000 0 19,694	16,233 42,868 5,264 60,816	
Test and Evaluation Organizations AGMC PO White Sands PO VAFB PO/MIPR Strategic Missile PO Integration Complex	<u>zations</u> IPR		207 795 11,508 275	74 41 110 0	33 0 243	100 754 345 230	0 0 10,510 45	300	207 795 11,508 275	
(SMIC) Maxwell Sandia Army Research PO/MIPR Lab	IPR		37 1,660 9	37 0	0 6	0 0 0	0 0 0	0 000	37 1,660 9	
Government Furnished Property: Not Applicable Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	operty: Not Applica ent gement n	tble		105,722 32,275 262 138,259	80,361 12,325 285 90,198*	91,430 17,314 2.009 110,753	58,941 38,135 11,135 108,211	18,420 25,132 800 44,352	354,874 125,181 14,491 494,546	
* Includes credit for partial FY95 General Congressional Reductions funded from Propulsion Replacement Program (BPAC 4210, this PE)	al FY95 General Co Replacement Progra	ngressional Rec am (BPAC 4211	<u></u>	Page 12 of 20 Pages	ages			Exhibit R-3	R-3	

RDT&E BUDGET ITEM JUST	STIFICA	TION S	TFICATION SHEET (R-2 Exhibit)	-2 Exhi	bit)		DATE N	March 1996	96
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	nent	PE N 06 (PE NUMBER AND TITLE 0604851F ICBM Modernization EMD	TITLE CBM Mod	dernizatio	on EMD	# E		
PROJECT NO. AND NAME 4210 Propulsion Replacement Program									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
4210 Propulsion Replacement Program	28,609	66,170	87,567	76,158	67,916	32,009	0	0	367,799
(U) A. Mission Description and Budget Item Justification (U) The Propulsion Replacement Program will remanufacture solid fuel stages to correct age-related degradations, maintain existing weapon system reliability, and support Minuteman life extension. Any of the degradations (propellant cracking, case corrosion, liner deterioration, inhibitor deterioration, and liner debond) can cause catastrophic motor failure and, in turn, mission failure. RDT&E efforts will identify replacement materials that are no longer available or which have become environmentally unacceptable, reduce life cycle costs, and identify corrections to age-related degradations. This project incorporates only changes that can be demonstrated in an appropriate time frame to ensure the Minuteman propulsion system continues to meet existing performance capabilities and remains viable and supportable. The project entered Phase 2 (Engineering Manufacturing and Development) in FY94.	ture solid furs (propellan ure. RDT&E identify corr dinuteman panufacturing	tel stages to tt cracking, (Efforts will rections to a, ropulsion sy, and Develo	re solid fuel stages to correct age-related degradations, maintain existing weapon system reliability, and (propellant cracking, case corrosion, liner deterioration, inhibitor deterioration, and liner debond) can . RDT&E efforts will identify replacement materials that are no longer available or which have become entify corrections to age-related degradations. This project incorporates only changes that can be unternan propulsion system continues to meet existing performance capabilities and remains viable and ufacturing and Development) in FY94.	elated degra n, liner dete acement ma gradations. ics to meet e	dations, mai rioration, in terials that a This project existing perfe	intain existii hibitor detei are no longe t incorporat ormance cap	ng weapon sionation, and ravailable of sonly changabilities and	ystem reliab d liner deboi r which hav ges that can remains viz	ility, and nd) can e become be ble and

AEDC testing, booster disassembly/assembly,	
Integrated program activities such as system engineering, program management, range support,	booster transportation.
- (U) \$9,741	

Continued fabrication, tooling and waste disposal for change verification motors. (U) \$9,453

Continued component reuse and materials replacement studies, continued stage design and development. (U) \$6,642 (U) \$2,773

Partial Adjustments to Appropriated Value for Guidance Replacement Program (BPAC 3085, this PE) but funded from Propulsion Replacement Program (BPAC 4210, this PE). Total

(U) \$28,609

(U) FY 1996

Continue fabrication, tooling and waste disposal for change verification motors. (U) \$23,688

Integrate program activities such as system engineering, program management, range support, AEDC testing, booster disassembly/assembly, (U) \$23,226

booster transmission.

Continue component reuse and materials replacement studies, continue stage design and development to include refurbishment.

(U) \$19,256 (U) \$66,170

Exhibit R-2



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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	1EET (R-2	Exhibit)		DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development 060	PE NUMBER AND TITLE 0604851F ICBN	E IM Moderi	PENUMBER AND TITLE 0604851F ICBM Modernization EMD			
PROJECT NO. AND NAME 4210 Propulsion Replacement Program						
(U) <u>FY 1997</u>						
- (U) \$25,876 Continue component reuse and materials replacement studies, continue stage design and development to include refurbishment. - (U) \$28,317 Integrate program activities such as system engineering, program management, range support, AEDC testing, booster disassembly, booster transportation.	inue stage desig nanagement, ra	ın and develo nge support,	pment to include re: AEDC testing, boos	furbishme ter disasse	nt. embly/assembly,	
 (U) \$27,594 Continue fabrication, tooling and waste disposal for change verification motors. (U) \$6,920 Begin software modification. (U) \$1,927 Begin ordnance development effort. (U) \$87,567 Total 	ation motors.					
(U) B. Program Change Summary (\$ in Thousands)						
Previous President's Budget 25,836 Appropriated Value 25,873	FY 1996 67,872 67,872	FY 1997 92,100	<u>Total Cost</u> 384,197			
(U) Adjustments to Appropriated Value a. Congressional/General b. Omnibus and other Above Threshold	-1,328 -374	-4 533	-13.625			
28,609*	66,170	87,567	370,572			
* Includes partial General Congressional Reductions (\$2,773) assessed against Guidance Replacement Program (BPAC 3085, this PE) but funded by Propulsion Replacement Program.	ınce Replaceme	nt Program (l	3PAC 3085, this PE	i) but fund	led by Propulsion	

(U) Change Summary Explanation:

Funding: FY97 and outyear funding reduced as result of RDT&E reduction during FY97 APOM and non-pay inflation adjustment.

Schedule: No significant impact.

Technical: No significant impact.

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RDT&E BUDGET	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	g Development	PE NUMBER AND TITLE 0604851F ICBM Modernization EMD	
PROJECT NO. AND NAME 4210 Propulsion Replacement Program	ı		
(U) C. Other Program Funding Summary (\$\ext{\$s} in Thousands)	S in Thousands)		
(U) APPN #14 (Missile Procurement - AF), Cost Cat 21000 (Missile Modifications), PE 0101213F (Minuteman Squadrons), BA-03 (Weapons Procurement), WSC M30MLG	FY 1995 FY 1996 FY 1997 0 0	FY 1998 FY 1999 FY 2000 FY 2001 0 133,193 199,387 2,1	To Total Compl Cost 2,116,100 2,470,600
(U) D. Schedule Profile			
	$\frac{\text{FY } 1995}{2}$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
 (U) Engineering inflictions (U) Stage PDR (U) T&E Milestones (U) Change Verification Test (I) Contract Milestones 	*X *X *X	x	
wards ! Award	2Q98-3Q00 1Q00 4Q00	×	
* Complete			
	Page	Page 15 of 20 Pages	Exhibit R-2





			ספו טפנ	T2001	RPEAK	BBO IECT COST BREAKDOWN (R.3)	2-3)	DATE	March 1006	
RDIGET ACTIVITY E Engineering and Manufacturing Developm	PROGRAM ELEMENT		r A Color	PE NUM 0604	PE NUMBER AND TITLE 0604851F ICBN	PENUMBER AND TITLE 0604851F ICBM Modernization EMD	ization EN	 	Walcii 1990	
PROJECT NO. AND NAME 4210 Propulsion Replacement Program	ent Program									
(U) A. Project Cost Breakdown (\$ in Thousands)	vn (\$ in Thousan	ds)								
			FY	FY 1995	FY 1996	FY 1997				
			18	18,909	53,435	62,776 6 894				
(U) Software				835	1,238	2,096				
			47)	5,214	6,272	7,595				
				224 654	4,442 783	5,089				
(U) Administrative Adjustment*	*		CV.	2,773		•				
(U) Total			7	28,609	66,170	87,567				-
* See note accompanying Program Change Summary.	gram Change Sur	nmary.								, <u>†</u>
(U) B. Budget Acquisition History and Planning Informat	story and Plann	ing Informatio	ion (\$ in Thousands)	usands)						
Performing Organizations:										
Contractor or Contract Government Method/Type Performing or Funding Activity	pe Award or Obligation	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations	tions Ang 94	98.352	93,035	4,469	5,351	16,182	21,712	45,321	93,035	
iet iet		97,337	92,460	5,403	7,440	20,593	22,852 24,572	36,172	92,460 96,366	
CSD SS CFAF Ordnance C CPAF Software C CPAF	Jul 94 TBD 2097	TBD	6,539 22,054	0	000	0	1,920 6,894	4,619 15,160	6,539 22,054	
Data not ava	il after contract a	ward.								
				Page 16 of 20 Pages	20 Pages			Exhib	Exhibit R-3	
				1040						

RD	RDT&E PROGRAM ELEMENT	SRAM EL		ROJEC	T COST	BREAK	PROJECT COST BREAKDOWN (R-3)	R-3)	DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	ng and Manu	facturing		ient	PE NUN 060 4	PE NUMBER AND TITLE 0604851F ICBN	PENUMBER AND TITLE OCCUPATION EMD NOCE TO THE NOCE OCCUPATION OCCUPATION EMD	nization El	ИD		
PROJECT NO. AND NAME 4210 Propulsion Replacement Program	√AME in Replacement	t Program									:
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office EAC	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total Program	- 1
Support and Management Organizations TRW SS CPAF Oc Program Integration	gement Organiza SS CPAF	tions Oct 94	N/A N/A	36,599 3,032	0 47	5,214	6,272	7,571 540	14,418	33,475 3,032	
Test and Evaluation Organizations AEDC PO Range (VAFB) PO Phillips Lab PO Wright Lab	n Organizations PO PO PO	Periodic Nov 99	N/A N/A	8,766 12,061 15 0	0000	412 0 15 0	804 0 15 16	1,516 0 0 0	5,960 12,061 0	8,766 12,061 16 16	
Government Furnished Property: Not Applicable	ished Property:	Not Applicab	le								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	evelopment nd Management Evaluation				14,869 47 0 14,916	19,787 5,622 427 25,836*	58,663 6,672 835 66,170	77,950 8,101 1,516 87,567	139,152 16,137 18,021 173,310	310,421 36,579 20,799 367,799	
* Excludes funds funded by this J Program (BPA)	Excludes funds for partial FY95 General Congressional Reductions funded by this project but assessed to Guidance Replacement Program (BPAC 3085, this PE).	General Cong ed to Guidanc	gressional Redu e Replacement	uctions							· · · · · · · · · · · · · · · · · · ·

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RDT&E BUDGET ITEM JUS	STIFICAT	ION SE	HEET (R	TIFICATION SHEET (R-2 Exhibit)	oit)		DATE N	March 1996	9
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developme	nent	PE NL 060	PE NUMBER AND TITLE 0604851F ICBN	PE NUMBER AND TITLE 0604851F ICBM Modernization EMD	ernizatio	n EMD			
PROJECT NO. AND NAME 13C4 Strategic C4 Program									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
13C4 Strategic C4 Program	0	0	2,817	0	0	0	0	TBD	TBD
(U) A. Mission Description and Budget Item Justification									
(U) The Strategic C4 program will modernize the command, control, communications and computers (C4) systems associated with assured force execution/termination of the ICBM force structure. The program will initially focus on the modification and integration of existing government furnished Miniature Receive Terminals (MRT) for use in ICBM launch control centers (LCCs). The MRT is a VLF receiver already designed, developed, and installed in the B-1B and B-52 bombers. This program will use MRT assets no longer required by the B-1 and B-52.	and, control, corogram will is centers (LCV ger required b	communicati nitially focu Cs). The M y the B-1 ar	ions and cor is on the mo RT is a VLF nd B-52.	nputers (C4) dification an receiver alr	systems ass d integration eady designe	ociated with n of existing ed, develope	n assured fore government d, and instal	ce f furmished	Miniature 1B and
(U) FY 1995 (\$ in Thousands): Accomplished under MEECN (PE 0303131F)	EECN (PE 03	03131F)							
(U) FY 1996 (\$ in Thousands): Accomplished under MEECN (PE 0303131F)	ECN (PE 03	03131F)							
(U) FY 1997 (\$ in Thousands):									
- (U) \$2,817 MMRT modification and integration - (U) \$2,817 Total	n into LCCs.								
(U) B. Program Change Summary (\$ in Thousands)									
	FY 1995 0		FY 1996 0	FY 1997 0	5 O	Total <u>Cost</u> 0			
 (U) Adjustments to Appropriated Value (U) Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/President's Budget 		0	0	2,817	EE	TBD			
		Page 18 of	Page 18 of 20 Pages				Exhibit R-2	2-2	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development 0604851F ICBM Modernization EMD	
PROJECT NO. AND NAME 13C4 Strategic C4 Program	
(U) Change Summary Explanation:	
Funding: FY97 funding from PE 0303131F (\$1,937) and FY97 BES cycle plus-up (\$1,000). FY98 and beyond funding requirements being addressed in the FY98 POM. FY97 funding decreased by \$120 for non-pay inflation adjustment.	ments being addressed in the FY98
Schedule: Not applicable	
Technical: Work transferred into this project is strategic C4 EMD efforts specifically applicable to ICBMs.	
(U) C. Other Program Funding Summary (S in Thousands):	
0303131F - Minimum Essential Emergency Communications Network (MEECN)	
(U) D. <u>Schedule Profile</u>	
(U) MMRT in ICBM LCCs $\frac{FY 1995}{1 2 3} + \frac{FY 1996}{2 3} + \frac{FY 1996}{2 3} + \frac{FY 1997}{2 3} + \frac{FY 1997}{3} + \frac{FY 1997}{3$	
	;
Page 19 of 20 Pages	Exhibit R-2
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UNCLUSIFIED	



\$TUQ	E PROG	RAM EI	POTA PROGRAM EL EMENT/PROJECT		SOST BE	REAKDO	COST BREAKDOWN (R-3)	<u> </u>	DATE	March 1996	
BUDGET ACTIVITY 5. Engineering and Manufacturing Development	Manual Manual	facturing C	evelopmer		PE NUMBER AND TITLE 0604851F ICBN	AND TITLE F ICBM I	DE NUMBER AND TITLE 0604851F ICBM Modernization EMD	ition EMD			
PROJECT NO. AND NAME 13C4 Strategic C4 Program	Frogram										
(U) A. Project Cost Breakdown (\$ in Thousands)	Breakdown (§ in Thousand	ଖ								
				FY 1995		FY 1996	FY 1997				
(U) Integration of MMRTs in ICBM LCCs (U): Total	IRTs in ICBA	4 LCCs		00		0 0	2,817 2,817				
(U) B. Budget Acquisition History and Planning Information (S in Thousands)	isition Histor	y and Plannin	g Information	(S in Thousand	(Sp						
Performing Organizations:	tions:										
Contractor or Government Merforming or Activity	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations TBD TBD	Organization BD	TBD	TBD	TBD	0	0	0	2,817	TBD	TBD	
Support and Management Organizations TBD TBD	ment Organiza TBD	tions TBD	TBD	TBD	0	0	0				****
Test and Evaluation Organizations AFOTEC TBD	Organizations TBD	TBD	TBD	TBD	0	0	0	0	TBD	TBD	
(U) B. Budget Acquisition History and Planning Information Continued (S in Thousands)	isition Histor	y and Plannii	<u>ig Information</u>	Continued (\$	in Thousand	ଜା					
Government Furnished Property: TBD	ed Property:	TBD									
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	slopment Management Iuation				000	000	000	2,817 0 0	180 180 180	OBT OBT OBT	
Total Project					0	0	0	2,817	TBD	TBD	
				Pag	Page 20 of 20 Pages	iges			Exhibit R-3	2-3	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION S	HEET (R	-2 Exhil	bit)		DATE	March 1996	<u>g</u>
BUDGET ACTIVITY 7 - Operational System Development		PE NI 030	PE NUMBER AND TITLE 0308610F Infor	PE NUMBER AND TITLE 0308610F Information Management - Automation - Program 3	งก Manac	yement -	Automati	ion - Pro	gram 3
PROJECT NO. AND NAME 4533 GCSS-AF (BLSM II)									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
4533 GCSS-AF (BLSM II)	0	10,400	15,193	15,597	16,096	16,595	17,089	TBD	TBD
(U) A. Mission Description and Budget Item, Justification The mission of GCSS-AF (BLSM II) is to modernize the software portion of standard Automated Information Systems (AISs) into integrated systems that are responsive to Air Force needs during wartime and peacetime. GCSS-AF will give Wing Commanders and other users the ability to access readily available mission information which resides on geographically and functionally disparate systems. GCSS-AF will create standard software applications that can be used effectively both during wartime and peacetime which will end the need to learn a new system when deployed. GCSS-AF applications will use an open systems environment. The applications will interoperate with other base level support systems, key Air Force systems, and command and control (C2) systems. This will increase the operational readiness of all base level automated data processing systems supporting the weapon systems, reduce logistics support costs, improve the productivity of Air Force personnel, and provide critical decision making information to operational commanders. This program is in Budget Activity 6, Management Support, because the program modernizes Automated Information Systems (AISs).	vare portion of will give Wilterns. GCSS when deploye ystems, and of n systems, rears. This programs.	of standard Ang Command -AF will cread, GCSS-Agommand and duce logistic ram is in Bu	vutomated Ir ders and other ate standard F application 1 control (C2 is support co dget Activity	formation S er users the ε software apl ns will use an 2) systems, sits, improve y 6, Manage	ystems (AIS ability to acc plications th n open syste This will inc the product	is) into integ cess readily e at can be use ms environn rease the op ivity of Air I rt, because ti	rated system tvailable mis d effectively nent. The ag erational rea Force person he program 1	ns that are ression inform, y both during pplications widiness of all mel, and promel, and promodernizes	sponsive ation 3 wartime 7ill inter- base
(U) FY 1996 - (U) 10,400 - (U) 8,900 Supply component - (U) 1,000 Rehost prototypes - (U) 1,000 COE Migration - (U) 10,400 Total	igration								
(U) FY 1997 - (U) 3,143 Modernization Planning Task Order - (U) 12,050 - (U) 7,550 Supply component - (U) 2,000 Rehost prototypes - (U) 2,500 COE Migration Total	er Aigration								







RDT&E BUDGET ITEM JUSTIFICA	TION SHEET	FIFICATION SHEET (R-2 Exhibit)	DATE March 1996
Development	PE NUMBER AND TITLE 0308610F Infor	AND TITLE F Information Ma	PE NUMBER AND TITLE 0308610F Information Management - Automation - Program 3
PROJECT NO. AND NAME 4533 GCSS-AF (BLSM II)			
(U) B. Program Change Summary (\$ in Thousands) (U) Previous President's Budget (FY 1996)	95 FY 96 0 0 0 10,400	FY 97 0 15,193	Total <u>Cost</u> TBD
(U) Adjustments to Budget Years (U) Current Budget Submit/President's Budget	0 10,400		TBD
(U) Change Summary Explanation:			
(U) Funding: The FY96 Appropriations bill required much of the GCSS-AF activity to be RDT&E funded vice O&M funded.	S-AF activity to be	RDT&E funded vice O	&M funded.
(U) Schedule: No change to program schedule.			
(U) Technical: No change to program technical requirements.			
	Page 2 of 4 Pages	૯ઙ	Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	JUST	FICATI	ON SHE	ET (R-2	Exhibi	æ		DATE March 1006	
BUDGET ACTIVITY 7 - Operational System Development			PE NUMI 0308(PE NUMBER AND TITLE 0308610F Infor	LE ormation	Manage	ment - /	PE NUMBER AND TITLE 0308610F Information Management - Automation - Program 3	ram 3
PROJECT NO. AND NAME 4533 GCSS-AF (BLSM II))		2	
(U) C. Other Program Funding Summary (\$ in Thousands)*	usands)*				o de la companya de l		{		
(U) O&M (BLSM I)**	FY 96 3,500	FY 97 500	FY 98	FY 99	FY 00	FY 01	To Compl	Total <u>Cost</u> 4,000	
	8,300 4,400 3,000	4,258	16,000	21,400	22,500	23,400	TBD	8,300 TBD	
		8,023	9,198	9,148	9,480	069'6	TBD	7,500 TBD	
(U) O&M***			4,000	4,100	4,200	4,300	TBD	TBD	
* O&M and procurement funds located within PE 0308610. ** Funding for fielding the BLSM I prototype systems. *** Reprogramming to RDT&E funds in process. *** Sustainment of fielded increments.	t 0308610. ems.								
(U) D. Schedule Profile									
(U) Increment 1.	<u>1995</u> 3	4	-	FY 1996	996 3 X	4	-	$\frac{\text{FY } 1997}{2}$	4
(U) Supply component (U) Rehost prototypes					× ×				` ^ ×
(U) COE Migration					×	7 1 1 2 3 4 6 1 1 1 1		AF XX	DISA
									·
		P_{c}	Page 3 of 4 Pages	ages				Exhibit R-2	







RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST B		DATE March 1996
вирает Астіміту 7 - Operational System Development	PE NUMBE 030861	PE NUMBER AND TITLE 0308610F Information Management - Automation - Program 3	utomation - Program 3
PROJECT NO. AND NAME 4533 GCSS-AF (BLSM II)			
(U) A. Project Cost Breakdown (\$000 in Thousands)			
<u> </u>	FY 96	FY 97	
(U) Modernization Planning Task Order	0	3,143	
(U) Supply component (U) Supply component (U) Rehost prototypes (U) COE Migration 500 (U) Total	8,900 1,000 500 0,400	7,550 2,000 2,500 15,193	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands) Not applicable.	(spun		
1	Page 4 of 4 Pages	ares	Exhibit R-3

RDT&E BUDGET ITEM JUSTIFICATIO	TIFICATION SHEET (R-2 Exhibit)	TE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
6 - Management Support	0603402F Space Test Program (Space)	
PROJECT NO. AND NAME		
2617 Space Research Flight Support*		

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
2617 Space Research Filght Support*	53,281	45,032	44,752	45,731	46,701	47,790	48,136	Continuing	Continuing

* FY95 submission referred to project 2617 as "Free-Flyer Spacecraft Missions," Projects 2620 and 4233 have been deleted and 2617 renamed in this submission. FY95 and out years funding reflect sums of all three projects. FY 95 budget in BAC 4.

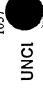
(U) A. Mission Description and Budget Item Justification

- community by providing unique spaceflight testing opportunities for experiments with military relevance whose scopes can range from basic research to advanced development. STP missions are the most cost-effective way to flight test new space systems technologies, concepts and designs, providing an inexpensive way to: (U) Space Test Program (STP) is a Budget Activity/Research Category RDT&E Management Support program. It provides support to the DoD space research
- Demonstrate the feasibility of new space systems and technologies,
- Improve operational design by characterizing the space environment and event or sensor physics proposed for an operational system or system upgrade,
 - Provide early operational capabilities to evaluate their usefulness or quickly react to new developments,
 - Perform operational risk reduction through direct flight test of prototype components,
- Develop the knowledge base from which to plan new and improved operational systems and system upgrades, and
 - Exploit unanticipated discoveries and opportunities.

This DoD program provides the only substantial spaceflight capability to perform fly-before-buy, risk-reducing demonstrations of advanced technologies in operational space environments.

improving DoD's current and future operational space system's performance. Experiments are considered for spaceflight based on the priority that they are assigned representatives with expertise in DoD operational space requirements. STP is given the Board's prioritized list of experiments and then seeks out the least expensive spaceflight opportunities include piggybacking on military or commercial satellites, both foreign and domestic; and the various payload modes of the Space Shuttle. procured within the constraints of available funding and according to experiment requirements. These includes Small and Medium Launch Vehicle class satellites, (U) The space research experiments that STP supports are justified, developed and delivered by various Service laboratories and DoD agencies, with the goal of For those experiments whose requirements cannot be satisfied with these "secondary" opportunities, dedicated STP spacecraft and launch vehicle hardware are means of spaceflight so as to fly as many of the experiments as it can within the constraints of priority, opportunity and available funding. The most common by a DoD Space Experiment Review Board, a group that is independent of the STP Program Office, and is comprised of Air Force, Army, Navy, and BMDO as well as Small Launch Vehicle class boosters themselves. Medium Launch Vehicle class boosters are provided as required by PE 35119F. If a particular

Page 1 of 5 Pages







		RDT&E BUDGET ITEM JUSTIFICATIO	STIFICATION SHEET (R-2 Exhibit)	March 1996
BUD	BUDGET ACTIVITY 6 - Management Slipport	t Support	PE NUMBER AND TITLE 0603402F Space Test Program (Space)	
PRO 26	PROJECT NO. AND NAME 2617 Space Resear	PROJECT NO. AND NAME 2617 Space Research Flight Support*		
	manifested exposhifts what reso	manifested experiment fails to materialize, is deemed impractical to fly give shifts what resources remain to provide spaceflight support for the next high	manifested experiment fails to materialize, is deemed impractical to fly given current funding, or if the appropriate spaceflight opportunity becomes unavailable, STP shifts what resources remain to provide spaceflight support for the next highest priority experiments.	ecomes unavailable, STP
	(U) The Air Fc for a given expoperational spa space research to launch and to funding would mitigating capa	ree requires a stable funding level and the flexibility necessariment or complement of experiments. This flexibility is essecreft, where margin is usually firmly identified during the s accomplished with the limited funds available. Without the st new technologies prior to their initial incorporation into olso force each of the Services and DoD agencies to create in bility. Such a redundancy would result in the loss of the contraction of the contraction in the loss of the contraction of the contraction in the loss of the contraction of the contraction in the loss of the contraction of the contraction in the loss of the loss of the contraction in the loss of t	(U) The Air Force requires a stable funding level and the flexibility necessary to take advantage of whatever means of spaceflight is deemed to be most cost effective for a given experiment or complement of experiments. This flexibility is essential to take advantage of inexpensive "target of opportunity" space hardware, including operational spacecraft, where margin is usually firmly identified during the later stages of spacecraft development. This assures that the greatest amount of DoD space research is accomplished with the limited funds available. Without the requested funding, DoD would lose its most successful and most cost effective capability to launch and test new technologies prior to their initial incorporation into our nation's very expensive and demanding operational space systems. Insufficient funding would also force each of the Services and DoD agencies to create individual launch capabilities in an attempt to duplicate STP's current low cost, risk mitigating capability. Such a redundancy would result in the loss of the contractual economy of scale that a single space test organization provides, as well as the	I to be most cost effective space hardware, including atest amount of DoD ost cost effective capability stems. Insufficient rrent low cost, risk rovides, as well as the
	filtering function	filtering function of the STF space Experiment review Doard in assuming minimum Capacition.		
ı	(\$ In Inousands) (U) FY 1995 (U) \$53,281	Worked spaceflight opportunities for as was possible, consistent with the availab	Worked spaceflight opportunities for as many of the highest ranked experiments from the 1994 Space Experiment Review Board (SERB) list as was possible, consistent with the availability of practical spaceflight means and funding. Continued to develop the spaceflight missions for	Board (SERB) list as ght missions for
<u> </u>	(U) \$53,281	those experiments currently manifested and managed the Is Total	and managed the launch effort for those ready for flight, as appropriate.	
<u> </u>	(U) <u>FY 1996</u> (U) \$45,032	Work spaceflight opportunities for as many of the highest navailability of practical spaceflight means and funding. Co	Work spaceflight opportunities for as many of the highest ranked experiments from the 1995 SERB list as possible, consistent with the availability of practical spaceflight means and funding. Continue to develop the spaceflight missions for those experiments that are manifested	ent with the s that are manifested
1	(U) \$45,032	and manage the launch effort for those ready for flight, as appropriate. Total	appropriate.	
	(U) \$44,752	Work spaceflight opportunities for as many of the highest availability of practical spaceflight means and funding. Co	Work spaceflight opportunities for as many of the highest ranked experiments from the 1996 SERB list as possible, consistent with the availability of practical spaceflight means and funding. Continue to develop the spaceflight missions for those experiments that are manifested	ent with the s that are manifested
<u> </u>	(U) \$44,752	and managed the launch effort for those ready for flight, as appropriate. Total	s appropriate.	
		Pa	Page 2 of 5 Pages	Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FICATION	N SHEET (R.	2 Exhibit)		DATE March 1996
BUDGET ACTIVITY		PE NUMBER AND TITLE	TLE		
6 - Management Support		0603402F Sp	ace Test Pr	0603402F Space Test Program (Space	(e)
PROJECT NO. AND NAME					
2617 Space Research Flight Support*					
(U) B. Program Change Summary (\$\\$\) in Thousands)					
	FY 1995	FY 1996*	FY 1997	Total Cost	
(U) Previous President's Budget	65,477	57,710	36,120	Continuing	
(U) Appropriated Value	67,998	47,000)	
(U) Adjustments to Appropriated Value	`	`			
a. Cong Gen Reductions	- 1,365	-1,166			
b. SBIR	- 1,139	-131			
c. Omnibus or Other Above Threshold Reprogram	-13,000				
d. Below Threshold Reprogramming	787	-671			
(U) Adjustments to Budget Years Since FY96 PB			8,632		
(U) Current Budget Submit/President's Budget	53,281	45,032	44,752	Continuing	
(U) Change Summary Explanation:					

Funding: The Air Force has received direction from the Under Secretary of the Air Force and the Secretary of Defense that reinstates the program's original support to all DoD users and restores approximately one-third of the FY96 PB reductions, \$10,620 in FY97; internal USAF adjustments have reduced the net increase by \$1,988.

* The FY96 PB amount does not reflect funding reductions that are reserved for other DoD reprogramming needs (\$491)

Schedule: Mission delay induced cost growth.

Technical: Not Applicable.

(U) C. Other Program Funding Summary (\$\sin Thousands):
Not Applicable

- Related RDT&E: (U) PE #305119F, (Medium Launch Vehicles)

(U) PE #305171F, (Space Launch Support) Experiments are funded by many S&T PE's in: USAF, Army, Navy, ARPA, BMDO, DoE, NASA, and NRO programs.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 6 - Management Support (Space)	ice)
PROJECT NO. AND NAME 2617 Space Research Flight Support*	
(U) D. Schedule Profile (Current projection. Experiments are added as new spaceflight opportunities and budget permits)	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	4
(U) AMOS (STS-61) (U) CONCOP-1, APE-B (STS-60)	
BETSU, AMOS, APE-B (STS-ACRE (S93-2)	***************************************
TAOS (P90-5) STL (NASA), VFT-4 (STS-59)	
(U) SIDEX (P91-2) (U) DUCTED, ADS, CHAMPION, PEA	
(P90-1) (U) PASP Plus, CRUX, FERRO (P90-	
6/APEX)	
(U) MAST, AMOS, RME III, LITE-1	
(STS-64) (U) CREAM, MAST (STS-68)	
(U) SWIM (S91-4) X (I) MAHRSI. STL/NIH (STS-66/ X	

(X, CREAMS(2), RI (S-63/P90-4)	
(U) ACTEX II, EDMM, SQUOD, X	
SAMMES, SAWAFE (P92-2) (U) HERCULES, STL-B, AMOS,	
PLUMES(MSX), VFT-4, RME III, WINDEX, MIS-B (STS-70)	
390-3) X	
Page 4 of 5 Pages Exh	Exhibit R-2
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE	March 1996
BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0603402F Space Test Program (Space)	
PROJECT NO. AND NAME 2617 Space Research Flight Support*		
$\frac{\text{FY 1995}}{1 2 3 4}$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
	X X	
(U) REX II (P94-2) (U) LMTE (LiTE), STL-A (STS-77/S93-5) (U) STL (STS-78) (I) FORTE (P94-1)	X X X	
(U) ESEX, USA, GIMI, SPADUS, CIV, HIRAAS, HTSSE II, EUVIP (P91-1/ARGOS) (U) EMPE, OOAM, DIDM (P95- A/STEP4)	X X	
(U) POGS-II (S92-1) (U) COOLAR (STS-85) (U) PANSAT (STS-86/S94D) *NOTE: NASA does not manifest shuttle flights (STS) beyond 18 months.	X	
28	Page 5 of 5 Pages Exhibit R-2	.2



RDT&E BUDGET ITEM JUS	STIFICATION SHEET (R-2 Exhibit)	TION SE	HEET (R	-2 Exhil	oit)		DAIE	March 1996	96
вирает астіліту 6 - Management Support		PE NU 060	PE NUMBER AND TITLE 0604256F Threat Simulator Development	IITLE hreat Sin	nulator [evelopn	nent		
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	38,900	55,113	43,635	44,879	33,689	31,994	32,951	0	ТВО
3321 Electronic Warfare Ground Test Resources	33,058	41,090	28,744	31,956	24,573	25,260	25,964	Continuing	ТВD
6510 Electronic Warfare Flight Test Resources	4,930	10,242	11,067	670'6	5,145	2,703	2,897	0	ТВО
2900 RATSCAT Upgrade	0	1,937	1,990	1,990	1,990	1,990	1,989	Continuing	ТВD
2907 Electronic Warfare Intel Support (1)	0	1,844	1,834	1,904	1,981	2,041	2,101	Continuing	TBD
1006 HAVE NOTE (2)	912	0	0	0	0	0	0	Continuing	ТВD

This project was transferred from PE 0605708F, Nav/Radar/Sled Track Support, effective FY 96.
 This project was transferred from PE 0305887F, Electronic Combat Intelligence Support, effective FY 96.

funding to support the Radar Target Scatter program (supports radar cross-section measurement), and the Foreign Materiel Program, specifically, operational exploitation. improvement is pursued in concert with the others so as to avoid duplicate capabilities while at the same time produce the proper mix of test resources needed to support (U) A. Mission Description and Budget Item Justification: This PE provides funding for the elements necessary to support the AF Electronic Warfare (EW) Test Process. This test process provides a methodology to ensure the effective disciplined and efficient testing of AF EW and avionics systems. Each capability or facility the AF EW Test Process. This PE provides funding for the management and technical oversight of implementation activities, the Air Force-led tri-Service effort to improvements, installed system test facility improvement, and development and improvement of open air threat simulators for flight testing. This PE also provides establish a common modeling and simulation architecture, measurement facilities operation and improvements, hardware in the loop test facilities operation and

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Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	IFICATI	ON SHEET (I	R-2 Exhibit)		DATE March 1996	
BUDGET ACTIVITY 6 - Management Support		PE NUMBER AND TITLE 0604256F Thre	TITLE Threat Simula	PE NUMBER AND TITLE 0604256F Threat Simulator Development	nent	
					:	
(U) B. Program Change Summary (\$ in Thousands):				Total		
AD Develore Devel done? Dudget	FY 1995	FY 1996	FY 1997	Cost		
(U) Appropriated Value	006,06	115,50	40,1/1	Com		
(U) Adjustments to Appropriated Value						
a. SBIR		-387				
b. ADP Savings SEC 8101		-11				
c. Economic Assum Sec 8125		-354				
d. FFRDCS SEC 8046		ć				
e. Bosnia #1 (revised)		-2,222				-
f. Ovrhead/Imprvd Mgmt SEC 8129		-787				
g. Appropriated Values		5,500				_
h. Adjustments to FY97 Budget Year	000	7 1 1	-4,536			
(U) Current Budget Submit/President's Budget	38,900	55,113	43,635	Cont		
(U) Change Summary Explanation:						
Funding: FY 97:						
Electronic Combat Integrated Test (ECIT)	+ 400	Minor adjustment				
J-MASS PED-CAD	+2,000	ZBT to realign wargaming a	gaming and simula	ıtion activities witl	ZBT to realign wargaming and simulation activities within this program element	
MEDCAL	0,730	Sciicauica activitio	icaucca.			
Schedule: For Electronic Warfare Ground Test Resources (3321), REDCAP SUAWACS-BM/C ³ project completed in 1Q FY 94 (vs 3Q FY 95). AFEWES RSAM	(3321), REI	OCAP SUAWACS-F	3M/C ³ project com	pleted in 1Q FY 9.	4 (vs 3Q FY 95). AFEWE	S RSAM
upgrade project canceled. REDCAP Option E (Advanced EW/GCI Radar Simulators) project canceled	EW/GCI Ra	dar Simulators) proj	ect canceled.			

Technical: None.

N.

Exhibit R-2

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RDT&E BUDGET ITEM JUS		IFICAT	TIFICATION SHEET (R-2 Exhibit)	IEET (F	₹-2 Ex	hibit)		Δ	DATE March 1996
BUDGET ACTIVITY 6 - Management Support			PE NU 060	PE NUMBER AND TITLE 0604256F Thre	TITLE Threat	Simula	tor Dev	PENUMBER AND TITLE 0604256F Threat Simulator Development	nt
		<u>.</u>							
(U) C. Other Program Funding Summary (\$ in Thousands)	Thousands): 1995	1996	1997	1998	1999	2000	2001	Compl	Cost
Appropriation: Military Construction, Budget Activity: Defense-Wide Mission Support, Program Title: Electronic Combat Integrated Test (ECIT)	1995	11,000 1996	4,900 1997	1998	1999	2000	2001	N/A Compl	16,000 <u>Cost</u>
Appropriation: Military Construction, Budget Activity: Defense-Wide Mission Support, Program Title: Central Test and Evaluation Investment Program (CTEIP)	7,565	6,800	24,220	7,370	3,500			N/A	52,455
Related RDT&E: (U) PE 0604759F, Major T&E Investment (U) PE 0604735F, Combat Training Ranges (U) PE 0207122F, F-16 (U) PE 0604239F, F-22 (U) PE 0604231F, C-17 (U) PE 0604226F, B-1									
(U) D. <u>Schedule Profile</u> :	FY 1995 2 3		1 2	FY 1996 2 3	4	_	FY 1997 2 3	4	
 (U) REDCAP Architecture-SUAWACS-BM/C³ Upgrade (Option 0) IOC. (U) REDCAP IADS/Data Link (Options A/B) IOC. (U) REDCAP Surveillance Radar Integration (Option C) Complete (U) AFEWES RAI Upgrade IOC. 	>			×		×	×		
(U) J-MASS Kelcases.	<		Page 3 of 17 Pages	17 Pages		;			Exhibit R-2
			1064						

March 1996 0604256F Threat Simulator Development RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 3321 Electronic Warfare Ground Test Resources 6 - Management Support PROJECT NO. AND NAME **BUDGET ACTIVITY**

COST (\$ In Thousands) FY 1995 FY 1996 FY 1997 FY 1998 FY 1997 Actual Estimate Estimate Estimate Estimate	FY 1997 FEstimate E	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
33.21 Electronic Warfare Ground Test Resources 33,058 41,090 28,744 31,956 2	28,744	56 24,573	25,260	25,964	Continuing	TBD

system. These three systems will be incorporated into both the AF ISTF and Navy ISTF at Patuxent River, MD. The antenna measurement and analysis facilities at Rome studies and related documentation. The Joint Modeling and Simulation System (J-MASS) is an Air Force-led, Tri-Service project to establish a DoD-wide common digital Digitally Controlled Analyzer and Processor (REDCAP) provide the ability to realistically evaluate hardware components against manned hardware threat representations upgrade. Funding from this program element will provide for Air Force-unique and general infrastructure. Air Force funds from the F-22, C-17, B-1, and F-16 programs simulation architecture in support of test and evaluation. This standard architecture will provide for credibility and correlation of test and evaluation results for all phases installation on the aircraft. Together the two AF HITL facilities, the Air Force Electronic Warfare Evaluation Simulator (AFEWES) and the Real Time Electromagnetic effectively and efficiently, a range of ground test capabilities from modeling and simulation architecture to the installed system test facility (ISTF) are required. The EW thorough weapon system evaluation in a large instrumented anechoic chamber prior to and during flight test. Three sources of funding are required to support the ECIT early enough to affect final system design. The Electronic Combat Integrated Test (ECIT) project upgrades the AF ISTF at Edwards AFB, CA. The ISTF provides for will provide for aircraft-specific test requirements. OSD funding from the Central Test and Evaluation Improvement Program (CTEIP) will provide for joint Navy/Air Test Process Support task provides for management, and coordinated technical oversight of the investment in and application of EW test facilities including analyses, (U) A. Mission Description and Budget Item Justification: The AF requires a comprehensive set of ground test facilities to implement the Air Force Electronic Force development of the radar target generator, infrared (IR) target generator, and the communication, navigation, and identification friend or foe (CNI) simulator of the weapon system acquisition life cycle. The Hardware in the Loop (HITL) test facilities evaluate electronic support and countermeasures effectiveness prior to Warfare (EW) Test Process. In order that program risk throughout the weapon system acquisition life cycle is managed effectively and flight testing is conducted Laboratory, NY, supported by this project are transitioning to full customer funding beginning in FY 96.



Page 4 of 17 Pages



RDT&E BUDGET ITEM. BUDGET ACTIVITY 6 - Management Support PROJECT NO. AND NAME 3321 Electronic Warfare Ground Test Resources Continued documentation of REDCAP facility architectur Continued documentation of REDCAP facility architectur ECTT. Released RFP, condufacility. COMEF, and procured a sec for the Pre-Flight Integration (GWEF), and procured a sec for the Pre-Flight Integration COMEST, and procured a sec for the Pre-Flight Integration COMEST, and procured a sec for the Pre-Flight Integration COMEST, and procured a sec for the Pre-Flight Integration COMEST, and procured a sec for the Pre-Flight Integration COMEST, Released RFP, condufaction COMEST, and procured a sec for the Pre-Flight Integration COMEST, and procured a sec for the Pre-Flight Integration COMEST, and procured a sec for the Pre-Flight Integration COMEST, and procured a sec for the Pre-Flight Integration COMEST, and procured a sec for the Pre-Flight Integration COMEST, and procured a sec for the Pre-Flight Integration COMEST, and procured a sec for the Pre-Flight Integration COMEST, and procured a sec for the Pre-Flight Integration COMEST, and procured a sec for the Pre-Flight Integration COMEST, and procured a sec for the Pre-Flight Integration COMEST, and procured a sec for the Pre-Flight Integration COMEST, and procured a sec for the Pre-Flight Integration COMEST, and procured a sec for the Pre-Flight Integration COMEST, and	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) Int Support Warfare Ground Test Resources Continued documentation of existing REDCAP EW/GCI (Ground Controlled Intercept) radars and their integration with the new/upgraded Continued documentation of existing REDCAP EW/GCI (Ground Controlled Intercept) radars and their integration with the new/upgraded REDCAP facility architecture. Continued documentation of existing REDCAP EW/GCI (Ground Controlled Intercept) radars and their integration with the new/upgraded REDCAP facility architecture. ECIT. Released RPP, conducted source selection, and awarded a risk-reduction contract for generic EW and avionics installed system test facility. ECCM. Acquired an additional millimeter wave (MMW) simulator channel for ECCM efforts in Guided Weapons Evaluation Facility (GWEF), and procured a scenario controller, electro-optical EO/IR imaging simulator, and advanced stores management avionics simulator for the Pre-Flight Integration of Munitions and Electronic Systems (PRIMES) facility. ECCM. Acquired an additional Measurement Racilities. Continued operation, development and improvement of ground and airborne far-field antenna measurement and analysis facilities. Optimized the range to support Fr-22 Aperture Development Programs. Provided capability to support the Fr-15 production decision on Manned Destructive Suppression of Signal Collection Upgrade Programs. Modified the B-1B testbed to support the Conventional Mission Upgrade Program.
(U) FY 1996 (\$ in Thousands) Planned Program: - (U) \$1,500 EW Test Process Support. each phase of the DoD Sy implementation plan to re J-MASS. Develop capabi MOSAIC models to proviproviding J-MASS user sn AFEWES Operation and Complete development of upgrades to the IR laborat REDCAP Operation and Initiate digital threat syste 96 funds to sustain FY 97	Continue the definition of a test facilities network that will support the full applica stem Acquisition Process for federated and integrated avionics systems. Formulate salize this network. It is neglect that can be written on a variety of hardwade an infrared simulation capability. Integrate the SUPPRESSOR model to provide upport and training. Add terrain modeling and an object-oriented database manages Upgrade. Continue AFEWES operations in support of Air Force, Army, Navy, and Upgrade. Continue REDCAP operations in support of Air Force, Army, Navy, and can modeling and simulation including an integrated air defense model in support of REDCAP in support of Army, Navy, and Air Force and non-DoD customers.
	Page 5 of 17 Pages

RDT	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICATION	SHEET (F	(-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 6 - Management Support	pport		PE NUMBER AND TITLE 0604256F Thre	тіт∟Е Ґhreat Simul≀	PE NUMBER AND TITLE 0604256F Threat Simulator Development	nent
PROJECT NO. AND NAME 3321 Electronic Warfar	PROJECT NO. AND NAME 3321 Electronic Warfare Ground Test Resources					
- (U) \$17,009 - (U) \$0 - (U) \$194 - (U) \$41,090	ECIT. Complete risk-reduction phase and select contractor for full-scale development of generic EW and avionics installed system test facility. Begin military construction of ECIT facilities. Rome Labs. The antenna pattern measurement facilities at this installation will transition to full funding by customers. Revised economic assumptions Total	hase and select cont on of ECIT facilities measurement facilit	ractor for full-sc.s. s. ties at this install	ale development (of generic EW and a	avionics installed system te
 (U) FY 1997 (\$ in Thousands) Planu – (U) \$1,536 EW Test Pronetwork to in network to hear subsect (C) \$3,069 AFEWES OP Complete IR – (U) \$20,081 ECIT. Contin construction – (U) \$28,744 Total (U) B. Program Change Summary (\$ in network to Appropriated Value a. Small Business (SBIR) Spread b. ADP Savings SEC 8101 c. Economic Assum SEC 8125 d. FFRDCS SEC 8046 e. Ovrhead/Imprvd Mgmt SEC 8129 f. Adjustments to FY 97 Budget Year 	(U) FY 1997 (\$ in Thousands) Planned Program: - (U) \$1,356 EW Test Process Support. Begin implementation of the EW test facilities network. Continue the analysis and planning of upgrades to the new test process Support emerging EW technologies. - (U) \$4,058 Inverse to improve implementation of the EW Test Process and support emerging EW technologies. - (U) \$4,058 Can improve model and scenario development tools, such as visual programming, graphical user interface, hardware platforms that J-MASS. an support. Support a growing library of models, and provide user training, support and documentation. - (U) \$3,069 Contained Upgrades. - (U) \$20,081 ECT. Continue development of infrastructure and generic EW and avionics installed system test capabilities. Complete military construction efforts for ECIT facilities. - (U) \$20,081 ECT. Continue development of infrastructure and generic EW and avionics installed system test capabilities. Complete military construction efforts for ECIT facilities. - (U) \$20,081 ECT. Continue development of infrastructure and generic EW and avionics installed system test capabilities. Complete military - (U) \$20,081 ECT. Continue development of infrastructure and generic EW and avionics installed system test capabilities. - (U) \$20,081 ECT. Continue development of infrastructure and generic EW and avionics installed system test capabilities. - (U) \$20,081 ECT. Continue development of infrastructure and generic EW and avionics installed system test capabilities. - (U) \$20,081 ECT. Continue development of infrastructure and generic EW and avionics installed system test capabilities. - (U) \$20,081 ECT. Continue development of infrastructure and generic EW and avionics installed system test capabilities. - (U) \$20,081 ECT. Continue development of infrastructure and generic EW and avionics installed system test capabilities. - (U) \$20,081 ECT. Continue development of infrastructure and generic EW and avionics installed system test capabilities. - (U) \$20,081 ECT. Continue develo	implementation of the on of the EW Test Phario development to sment capabilities. I brary of models, and . Continue AFEWE nfrastructure and getties. EY 1995 33,058	the EW test facili rocess and suppo tools, such as viss Increase simulati d provide user tr. ES operations in eneric EW and aveneric EW and av	tties network. Coort emerging EW all programming, ion speed. Increadaining, support at support of Air Footonics installed solutionics installed solutionics. EY 1997 33,280 -4,536	technologies. , graphical user interse the number of hand documentation. rce, Army, Navy, anystem test capability Total Total TBD	nylementation of the EW test facilities network. Continue the analysis and planning of upgrades to of the EW Test Process and support emerging EW technologies. ario development tools, such as visual programming, graphical user interface, hardware-in-the-loop ment capabilities. Increase simulation speed. Increase the number of hardware platforms that J-ML rany of models, and provide user training, support and documentation. Continue AFEWES operations in support of Air Force, Army, Navy, and non-DoD test customers. frastructure and generic EW and avionics installed system test capabilities. Complete military ies. Total FY 1995 FY 1996 FY 1997 Total Total A4,487 -302 -9 -268 -268 -29 -594
		Page C	Page 6 of 17 Pages			Exhibit R-2

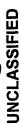


RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	IFICATI	NO SHE	ET (R	-2 Exh	ibit)		DATE	те March 1996
BUDGET ACTIVITY 6 - Management Support		PE NUMBER AN 0604256F		тге hreat S	imulat	or Deve	Threat Simulator Development	ıt
PROJECT NO. AND NAME 3321 Electronic Warfare Ground Test Resources								
	FY 1995	FY 1996	96	FY 1997		Total Cost		
g. Bosnia Reprogramming 1 (U) Current Budget Submit/President's Budget	33,058	-2, 41,0	-2,222 41,090	28,744		TBD		
(U) Change Summary Explanation: Funding: FY 97 Funding: Funding: EY 97: Electronic Combat Integrated Test (ECIT)	+ 400	Minor adjustment ZRT to realign wa	ıstment Ilien ware	amine and	l simulati	on activiti	es within	Minor adjustment ZBT to realign wargaming and simulation activities within this program element
REDCAP	- 6,936	Scheduled activities reduced	activities	reduced.)
Schedule: REDCAP SUAWACS-BM/C ³ project completed in 1Q FY 94 (vs 3Q FY 95). AFEWES RSAM upgrade project canceled. REDCAP Option E for advanced EW/GCI radar simulators canceled.	ted in 1Q FY	94 (vs 3Q F	т 95). А	FEWES R	SAM up	grade proj	ect cancele	ed. REDCAP Option E for
Technical: None.								
(U) C. Other Program Funding Summary (\$ in Thousands): 1995	1996	1997	1998	1999	2000	2001	Compl	Cost
Appropriation: Military Construction, Budget Activity: Defense-Wide Mission Support, Program Title: Electronic Combat Integrated Test	11.000	4,900					N/A	16,000
Appropriation: Military Construction, Budget Activity: Defense-Wide Mission Support, Program Title: Central Test and Evaluation Investment Program (CTBIP)	2,100	7,820	4,370	3,500			N/A	21,915
	7	Page 7 of 17 Pages	7 Pages					Exhibit R-2

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE March 1996
вирсет Астіміту 6 - Management Support	PE NUMBER AND TITLE 0604256F Threat Simulator Development	
PROJECT NO. AND NAME 3321 Electronic Warfare Ground Test Resources Related RDT&E:		
 (U) PE 0604759F, Major T&E Investment (U) PE 0604735F, Combat Training Ranges (U) PE 0207122F, F-16 (U) PE 0604239F, F-22 (U) PE 0604231F, C-17 (U) PE 0604226F, B-1 		
$\frac{\text{Y } 1995}{2}$	Y 1996 FY 1997	
(U) REDCAP Architecture-SUAWACS-BM/C³ Upgrade (Option 0) IOC (U) REDCAP IADS/Data Link (Options A/B) IOC (U) REDCAP Surveillance Radar Integration (Option C) Complete (U) AFEWES RAI Upgrade IOC (U) J-MASS Releases.	X X X X X X X X X X X X X X X X X X X	
Pa	Page 8 of 17 Pages	Exhibit R-2





RDT&E BUDGET ITEM JUSTIFICATIO	STIFICATION SHEET (R-2 Exhibit) DATE March 1996
BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0604256F Threat Simulator Development
PROJECT NO. AND NAME 6510 Electronic Warfare Flight Test Resources	

OCO (* 11 1100341103) Actual Estimate Estimate Estimate	Estimate Es	FY 2000 FY 2001 Estimate	01 Cost to ate Complete	Total Cost
6510 Electronic Warfare Flight Test Resources 4,930 10,242 11,067 9,029	5,145	2,703	2,897	о твр

(U) A. Mission Description and Budget Item Justification: This project funds those resources, including simulators and instrumentation, necessary to support flight simulators to maintain currency with the latest intelligence. This project funds the development of an Advanced Airborne Interceptor Simulator (AAIS) in conjunction with the Central Test and Evaluation Improvement Program (CTEIP). CTEIP funds the non-recurring engineering (NRE) portion of AAIS development, whereas this test in an open-air environment. It includes the development of advanced signal sources to represent ground and airborne threats and the upgrade of existing threat project acquires the AAIS hardware.

(U) FY 1995 (\$ in Thousands) Program:

 EMTE. Electromagnetic Test Environment Acquired SADS XII antenna. Continued instrumentation at	foreign surface-to-air missile (SADS VM). Incorporated the latest intelligence information into simulators for threats for which real	alfoliation and nativities of the contraction of th
(U) \$1.964		

on

AAIS. Awarded contract to develop, fabricate, integrate, and test an airborne test simulator to be completed 4Q FY 98. systems are not available. - (U) \$2,966

- (U) \$4,930 Total

(U) FY 1996 (\$ in Thousands) Planned Program:

- (U) \$10,242 AAIS. Complete design phase and begin fabrication phase.

- (U) \$10,242 Total

(U) FY 1997 (\$ in Thousands) Planned Program:

AAIS. Complete fabrication phase. Begin preparation for integration/testing phases. - (U) \$111,067

- (U) \$11,067 Total

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	-ICATIO	N SHEET (R	-2 Exhit	oit)	<u> </u>	рате Ма	March 1996	
BUDGET ACTIVITY 6 - Management Support		PE NUMBER AND TITLE OF 1004256F Threat Simulator Development	⊓⊓LE hreat Sin	ulator Dev	relopme			
PROJECT NO. AND NAME 6510 Electronic Warfare Flight Test Resources								
(U) B. Program Change Summary (\$ in Thousands):				Total				!
Previous President's Budget Appropriated Value	FY 1995 4,930	$\frac{\text{FY } 1996}{10,520}$	$\frac{\text{FY } 1997}{11,067}$	Cont				
 (U) Adjustments to Appropriated Value a. Adjustments to FY 96 and FY 97 budget years b. Small Business (SBIR) Spread c. ADP Savings SEC 8101 d. Economic Assum SEC 8125 e. FFRDCS SEC 8046 		-71 -2 -63						
f. Ovrhead/Imprvd Mgmt SEC 8129 (U) Current Budget Submit/President's Budget	4,930	-141 -141 10,242	11,067	Cont				
(U) Change Summary Explanation: Funding: None.								
Schedule: None.								
Technical: None.								
(U) C. Other Program Funding Summary (\$\frac{8}{2}\$ in Thousands):						É	F	
(U) PE 0604940D, Central T&E Improvement 1,600 Program	FY 1996 FY 6,400	FY 1997 FY 1998 6,400	FY 1999	FY 2000 F	FY 2001	Comp	1 0tal <u>Cost</u> 18,400	
Related RDT&E:								
PE 0604759F, Major T&E Investment PE 0604735F, Combat Training Ranges								
	Page	Page 10 of 17 Pages				Exhibit R-2		





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SHEET (R-2 Exhibit) DATE March 1996
BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0604256F Threat Simulator Development
PROJECT NO. AND NAME 6510 Electronic Warfare Flight Test Resources	
(U) D. Schedule Profile: FY 1995	FY 1996 FY 1997
N/A 1 2 3 4 1	4 1
Page	Page 11 of 17 Pages

March 1996 DATE 0604256F Threat Simulator Development RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 6 - Management Support BUDGET ACTIVITY

PROJECT NO. AND NAME

2900 RATSCAT Upgrade

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
2900 RATSCAT Upgrade	0	1,937	1,990	1,990	1,990	1,990	1,989	Continuing	TBD

(1) This project transferred from PE 0605708F, Nav/Radar/Sled Track Support, effective FY 96. (FY 94/95 funding was \$2,000 per year.)

support to address radar cross section (RCS) measurement requirements of DoD customers. Key areas of improvement complement and support the existing stand-alone bistatic testing, pylon background reduction, low frequency measurement capability upgrades, and efficiency related equipment. The DoD continues an aggressive R&D Central Test and Evaluation Improvement Program (CTEIP) funded program and include radar upgrades standardization of data processing equipment and techniques, Measurement System (RAMS) Radar Replacement, and the Next Generation Pylon. For DAPS, CTEIP funds the hardware, development, instrumentation, and spares. (U) A. Mission Description and Budget Item Justification: This project provides improvements to the Radar Target Scatter (RATSCAT) facility in order to assure program to achieve low observable technology. This project provides a continuous effort to allow test technology to keep pace with these activities. In a related effort, For BICOMS, CTEIP funds part of the hardware and labor. For the Next Generation Pylon, CTEIP funds the pylon and installation. For RAMS Radar Replacement, OSD CTEIP provides funding for the Data Acquisition and Processing System (DAPS), Bistatic Coherent Measurement System (BICOMS), RATSCAT Advanced CTEIP funds the hardware and labor.

(U) FY 1995 (\$ in Thousands) Program

Procured RAMS (previously Integrated Radar Measurement System) efficiency upgrades, completed the preliminary design review for BICOMS, and completed acquisition of advanced technology pylon skirts. - (U) \$2,000

Total - (U) \$2,000 (U) FY 1996 (\$ in Thousands) Planned Program:

Procuring risk reduction hardware for North Range Radar efficiency upgrades. Completing the design specifications for RAMS Radar Replacement. Buying additional DAPS system. - (U) \$1,937

Total - (U) \$1,937 Exhibit R-2

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RDT&E PROGRAM ELEMENT/PROJECT	PROJECT COST BREAKDOWN (R-3)	(DOWN (R-3)	DATE	March 1996
BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0604256F Thre	PE NUMBER AND TITLE 0604256F Threat Simulator Development		
PROJECT NO. AND NAME 2900 RATSCAT Upgrade	·			
 (U) FY 1997 (\$ in Thousands) Planned Program: (U) \$1,990 Complete procurement of DAPS for Mainsite. Corange and system sensitivity. (U) \$1,990 Total 	ntinue North Range R	ıdar İmprovements.	for Mainsite. Continue North Range Radar Improvements. Procure RAMS radar to improve the dynamic	improve the dynamic
(U) B. Program Change Summary (\$\\$\) in Thousands):		I	Total	
(U) Previous President's Budget	FY 1996 1,990	FY 1997 1,990	<u>Cost</u> Cont	
(U) Adjustments to Appropriated Value a. Small Business (SBIR) Spread b. Economic Assum SEC 8125 c. Ovrhead/Imprvd Mgmt SEC 8129 (U) Current Budget Submit/President's Budget (U) Funding from PE 0605708F	-14 -12 -27 1,937	1,990	Cont	
(U) Change Summary Explanation: Funding: This project is covered under PE 0605708F for FY 1994 and FY 1995.	FY 1995.			
Schedule: None.				
Technical: None.				
(U) C. Other Program Funding Summary (\$ in Thousands):			1	
(U) PE 0604940D, CTEIP 1,300	FY 1997 FY 1998 10,000 3,000	FY 1999 FY 2000 0	To 0 FY 2001 Comp 0 0 0	Total <u>Cost</u> 19,640
(U) D. Schedule Profile: Not applicable.				
P_{ℓ}	Page 13 of 17 Pages		Exhibit R-3	R-3

RDT&E BUDGET ITEM JUSTIFICATION	ISTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
6 - Management Support	0604256F Threat Simulator Development	nt
PROJECT NO. AND NAME		
2907 Electronic Warfare Intel Support (1)		

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
2907 Electronic Warfare Intel Support (1)	0	1,844	1,834	1,904	1,981	2,041	2,101	Continuing	TBD

(1) This project was transferred from PE 0305887F, Electronic Combat Intelligence Support, effective FY 96.

and laboratory costs; costs for instrumentation of blue systems; contracted engineering support for the conduct of tests and subsequent reporting. Funding for this program deployment of blue systems to test facilities, travel for personnel to the test sites to evaluate and validate test results real-time, reimbursement for industrial-funded range (U) A. Mission Description and Budget Item Justification: This project provides funding to support Foreign Materiel Operational Test and Evaluation (FMOT&E) is required to prevent future aircraft losses due to improper and inaccurate aircrew tactics (e.g., lack of evasive action or proper tactics training to avoid missile attack). which ensures the ability of operational commands to test and develop effective Electronic Attack/Electronic Protection (EA/EP) and tactics. Funds are required for:

(U) FY 1995 (\$ in Thousands) Program:

See PE 0305887F.

- (U) \$0

(U) FY 1996 (\$ in Thousands) Planned Program:

Funds testing for foreign materiel operational exploitation. Extensive evaluations and reporting to be accomplished. - (U) \$1,844

- (U) \$1,844 Total

(U) FY 1997 (\$ in Thousands) Planned Program:

Funds continued testing for foreign materiel operational exploitation. Extensive evaluations and reporting to be accomplished. - (U) \$1,834

- (U) \$1,834 Tota

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	CATION SHEET	(R-2 Exhibit)	DATE	March 1996
BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0604256F Three	ND TITLE F Threat Simulat	PENUMBER AND TITLE 0604256F Threat Simulator Development	
PROJECT NO. AND NAME 2907 Electronic Warfare Intel Support (1)				
(U) B. Program Change Summary (§ in Thousands):			Total	
Budget	FY 1995 FY 1996 N/A 1,880	FY 1997 1,834	Cost N/A	
(U) Appropriated Value (U) Adjustments to Appropriated Value a. Adjustment to FY 96 and FY 97 budget years b. Economic Assum SEC 8125 c. Ovrhead/Imprvd Mgmt SEC 8129 (U) Current Budget Submit/President's Budget Funding from PE 0305887F:	-11 -25 N/A 1,844 1,788	1,834	N/A	
(U) Change Summary Explanation: Funding: Transferred from PE 0305887F, effective FY 96.	.9			
Schedule: None.				
Technical: None.				
(U) C. Other Program Funding Summary (\$ in Thousands): Not	Not applicable.			
(U) D. <u>Schedule Profile</u> : Not applicable.				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION SI	HEET (F	R-2 Exhi	bit)		DATE	March 1996	9
BUDGET ACTIVITY 6 - Management Support		PE N 06 (PE NUMBER AND TITLE 0604256F Thre	ттге Гhreat Si	PE NUMBER AND TITLE 0604256F Threat Simulator Development	Developr			
PROJECT NO. AND NAME 1006 HAVE NOTE (2)									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
1006 HAVE NOTE (2)	912	0	0	0	0	0	0	Continuing	ТВD
(U) A. <u>Mission Description and Budget Item Justification</u> : Developed, improved and supported the Rome Laboratory Electromagnetic Radiation (EMR) test facilities including an anechoic chamber for free space electromagnetic environments simulations; a mode-tuned reverberation chamber for rapid "quick look" evaluations; a small anechoic chamber used for subsystem evaluations; and a radio frequency (RF) and microwave instrumentation development facility. The electromagnetic susceptibility data produced at these facilities is used to perform weapon system and C ³ system vulnerability assessments and update test methods, acquisition specifications, hardening design guidelines, and maintenance of technical orders. For FY 96 and the out years, this project is transitions to full customer funding.	Developed, environment frequency (R em and C ³ I s Y 96 and the	improved and simulation F) and microsystem vulne out years, the	nd supportec s; a mode-tu owave instru rability asse ris project is	I the Rome I med reverbe imentation issments and transitions	aboratory Eration cham fevelopment I update test to full custo	lectromagno ber for rapid facility. The methods, ac	etic Radiatio I "quick look ie electromag quisition spe	Developed, improved and supported the Rome Laboratory Electromagnetic Radiation (EMR) test facilities nvironments simulations; a mode-tuned reverberation chamber for rapid "quick look" evaluations; a small requency (RF) and microwave instrumentation development facility. The electromagnetic susceptibility am and C ³ I system vulnerability assessments and update test methods, acquisition specifications, hardening 96 and the out years, this project is transitions to full customer funding.	facilities ; a small ibility ardening
 (U) FY 1995 (\$\\$\) in Thousands) Program: (U) \$912 Continued operation, development and improvement of Electromagnetic Environmental Effects (E³) Assessment Facilities. Configured anechoic chamber to support vulnerability assessment of SFW Pre-planned Product Improvement (P³) hardware. Procured replacement of \$400K multiband high-power traveling wave tube power supply and modulator. Prepared and instrumented anechoic chamber facility to support Joint Direct Attack Munition (JDAM) SPO. (U) \$912 Total 	nt and impronerability assveling wave tion (JDAM)	vement of Elessment of Stube power s	lectromagne SFW Pre-pla supply and n	tic Environı nned Produ nodulator.	nental Effec ct Improvem repared and	ts (E³) Asserent (P³) har instrument	ssment Facil rdware. Pro ed anechoic	ities. Configi cured replacei chamber facil	ured ment of ity to
(U) FY 1996 (\$ in Thousands) Planned Program: Becomes fully customer funded. - (U) \$0 Total									
. (U) FY 1997 (\$ in Thousands) Planned Program: Fully customer funded. - (U) \$0 Total									
		Page 16 of 17 Pages	'17 Pages				Exhibit R-2	2-2	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)		DATE March 1996	966
BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0604256F Thre	Threat Simulator Development	tor Developm		
PROJECT NO. AND NAME 1006 HAVE NOTE (2)					
(U) B. Program Change Summary (S in Thousands):			Total		
(U) Previous President's Budget 912 (U) Appropriated Value 912	<u>FY 1996</u> 0	FY 1997 0	Cont		
 (U) Adjustments to Appropriated Value a. Adjustments to FY 96 and FY 97 budget year (U) Current Budget Submit/President's Budget 	0	0	N/A		
(U) Change Summary Explanation: Funding: Fully customer funded beginning in FY 96.			·		
Schedule: None.					
Technical: None.					•
(U) C. Other Program Funding Summary (\$ in Thousands): Not applicable.					
(U) D. Schedule Profile: Not applicable.					

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RDT&E BUDGET ITEM JUS		FION SE	HEET (R	TIFICATION SHEET (R-2 Exhibit)	ji (ji		DATE	March 1996	9
BUDGET ACTIVITY 6 - Management Support		PE NU 060	PE NUMBER AND TITLE 0604258F Targ	PENUMBER AND TITLE 0604258F Target Systems Development	stems De	velopme	ınt		
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	7,336	5'052	4,966	5,223	5,367	5,533	2,609	Continuing	TBD
2459 Target Payload System	1,093	3,930	4,966	5,223	5,367	5,533	5,609	Continuing	ТВD
3165 QF-4 Development	6,243	1,125	0	0	0	0	0	Continuing	51,113
(U) A. Mission Description and Budget Item Justification Aerial Targets are used to determine air-to-air weapons effectiveness and mission proficiency of our tactical systems against enemy aircraft. The overall objective is to improve air-to-air weapons systems accuracy and reliability by developing improved aerial target systems for Air Force weapons system test and evaluation. This program is in budget activity 6 - Management Support because it provides overall support to research and development activities.	ectiveness ar llity by devel ause it provic	nd mission p oping impro tes overall s	roficiency of ved aerial ta upport to res	f our tactical rget systems cearch and de	systems aga for Air Forc	inst enemy se weapons s activities.	aircraft. The	e overall obji nd evaluatio	ective is n. This
(U) Acquisition Strategy: The acquisition strategy is competitive, cost plus contracts.									
(U) B. Program Change Summary (\$ in Thousands)									
	FY 1995 7,576 7,576		$\frac{\text{FY } 1996}{5,362}$	FY 1997 5,234	Total <u>Cost</u> TBD	a D			
(U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram	-88 -142	8 2 6	-105 -91 -111						
(U) Current Budget Submit/President's Budget	7,336		5,055	-268 4,966	TBD	Ð			
		Page 1 of 9 Pages	9 Pages				Exhibit R-2	-2	



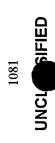


RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHE	ET (R-	2 Exhib	it)	ď	DATE Mar	March 1996	
вироет АстіvітY 6 - Management Support	PE NUMBER AN 0604258F		ւե rget Sys	tems De	Target Systems Development	ıt		
(U) Change Summary Explanation: Funding: Decrease in FY96 is reprogramming to fund Bosnia and F-16s to Jordan	16s to Jordan	u.						
Schedule: None								• • • • • • • • • • • • • • • • • • • •
Technical: None								
(U) C. Other Program Funding Summary (S in Thousands)								
FY 1995 FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	To Compl	Total Cost	
(U) PE 35116F: Appropriation: Weapon Procurement, AF Budget Activity: 4, Program Title: Target Drones WSC: M107 (MQM-107E) WSC: M107 (MQM-107E) 10 1,463 8,936 18,713 20,06 22,872 33,724 23,924 21,274 21,144 21,	4, Program T 8,936 23,924 2,920	Fitle: Target 18,713 21,274 3,911	Drones 20,069 21,144 4,029	21,390 20,840 4,124	22,410 21,180 4,217	Cont Cont	1380 081 081	
aintenance	4, Program	Title: Targe 2,549	et Drones 2,609	2,706	2,962	Cont	TBD	
(U) D. Schedule Profile								
$\frac{\text{FY 1995}}{1 2 3 4}$	1 2	FY 1996 2 3	4 1	FY 1997 2 3	3 4			
Full Scale Aerial Target Systems QF-4 Contract Award 2/92 Developmental Test and Evaluation X								
Operational Test and Evaluation (OT&E) White Sands (DT&E/OT&E) Production Decision Lot 1	×							
	Page 2 of 9 Pages	Pages				Exhibit R-2		
	1000							

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0604258F Target Systems Development	
EY 1995 1 2 3 4 Lot 1 Deliveries Begin Production Decision Lot 2 IOC	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
Target Payloads NAVS - Hardware Preliminary Design Review/ Software Specification Review 4/93 - Software Preliminary Design Review - Hardware Critical Design Review (CDR) - Quality Testing - Ground Accuracy Tests - Flight Test - Milestone III - Production Option	× × × × × × × × ×	
DREEM - RFP Release - Contract Award - Testing - Production Decision - Delivery (FY99)	×	
Next Generation Aerial Target (NGAT) - RFP Release - Contract Award		
d	Page 3 of 9 Pages.	Exhibit R-2



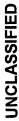


RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION S	HEET (R	-2 Exhil	oit)		DATE M	March 1996	9
BUDGET ACTIVITY 6 - Management Support		PE NU 060	PE NUMBER AND TITLE 0604258F Targ	PE NUMBER AND TITLE O604258F Target Systems Development	stems De	evelopme	ınt		
PROJECT NO. AND NAME 2459 Target Payload System					;				
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
2459 Target Payload System	1,093	3,930	4,966	5,223	5,367	5,533	2,609	Continuing	ТВО
(U) A. Mission Description and Budget Item Justification Specialized payload subsystems are developed for full-scale and subscale targets for missile scoring, electronic and infrared (IR) countermeasures, and radar and IR signature augmentation. Current scoring systems provide only miss distance information. Noncooperative Airborne Vector Scoring (NAVS), is the tri-service system signature augmentation relative to the target at point of closest approach, which are essential to accurately calculate the probability of under development to provide missile path and position relative to the target at point of closest approach, which are essential to accurately calculate the probability of under development to provide missile path and checkout is underway to meet scoring requirements until NAVs is fielded. IR signature augmentation on subscale targets provides a signature representative of threat military jet engines. Electronic and IR countermeasures (ECM & IRCM) include systems such as chaff and flare dispensers, Drone Radar Cross Section (RCS) Electronic Enhancement Mechanism (DREEM) provides RCS enhancement of Aerial Targets to replicate threats, and is used for Developmental Test and Evaluation/Initial Operational Test and Evaluation of air-to-air missiles, air-to-air Weapons System Evaluation Program (WSEP). The acquisition strategy is competitive, cost plus contracts	ale and subscale targe cale and subscale targe de only miss distance i relative to the target a checkout is underway t reat military jet engin i Electronic Enhancem cion/Initial Operationa ve, cost plus contracts	ile targets for stance infortatarget at point target at pointerway to me et engines. Et engines. It hancement Narational Tes ontracts	r missile sco nation. Nor nt of closest et scoring re Electronic ar Aechanism (t and Evalua	ring, electrol ncooperative approach, w equirements 1 nd IR counte: (DREEM) pr	nic and infra Airborne V hich are ess until NAVs rmeasures (F ovides RCS	nred (IR) coverting ential to accing is fielded. If a CM & IRCl enhancemer s, air-to-air s,	intermeasure g (NAVS), is urately calcu R signature a M) include s nt of Aerial 7 Weapons Sys	ss, and radar the tri-serv late the prob ugmentation ystems such l'argets to rej	and IR ice system ability of n on as chaff plicate tion
 (U) FY 1995 (\$ in Thousands): (U) \$375 IVS Accuracy Testing (U) \$375 IVS Accuracy Testing (U) \$150 Collect and compile target signature data for use in test planning (U) \$150 Next Generation Aerial Target (NGAT) Mission Need Statement/Cost and Operational Effectiveness Analysis (U) \$150 Drone Radar Cross Section (RCS) Electronic Enhancement Mechanism (DREEM) Analysis (U) \$456 Other technical support (U) \$456 Total 	ue data for use GAT) Mission Electronic En	in test planr Need Staten hancement N	uing nent/Cost an Aechanism (id Operation: DREEM) As	al Effectiven nalysis	iess Analysis	(MNS/COE	(Y)	
 (U) FY 1996 (\$\frac{\psi}{\psi}\$ in Thousands): (U) \$\frac{\psi}{\psi}\$290 Gulf Range Drone Control Upgrade System (GRDCUS)/MQM-107E Simulation & Integration (U) \$\frac{\psi}{\psi}\$200 Initiate Demonstration and Evaluation (DEMVAL) for DREEM (U) \$\frac{\psi}{\psi}\$20 Initiate follow-on aerial target study (U) \$\frac{\psi}{\psi}\$20 Initiate follow-on aerial target study (U) \$\frac{\psi}{\psi}\$20 GRDCUS/BQM-34 Heading Hold Integration (U) \$\frac{\psi}{\psi}\$75 GRDCUS/BQM-107E Signal Processor Vehicle Interface/Digital Autopilot (SPVI/DAP) Combination 	de System (GR ation (DEMVA dy I Integration iicle Interface/	DCUS)/MQM-107E S.L.) for DREEM Digital Autopilot (SPA	M-107E Sim EM pilot (SPVI/	ulation & Ir DAP) Comb	ntegration ination		Exhibit R-2	r-2	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION SHEE	T (R-2 Exhib	oit)	DATE March 1996
BUDGET ACTIVITY 6 - Management Support	PE NUMBE 060425	PE NUMBER AND TITLE 0604258F Target Sys	PENUMBER AND TITLE 0604258F Target Systems Development	
PROJECT NO. AND NAME 2459 Target Payload System				
 (U) \$130 Target Reliance technical support (U) \$60 Initiate enhanced subscale demonstration (U) \$755 Other technical support (U) \$3,930 Total 				
(U) \$Y 1997 (\$ in Thousands): - (U) \$700 Continue follow-on aerial targets study - (U) \$3,000 Continue DEMVAL for DREEM - (U) \$300 MQM-107E SPVI/DAP combination - (U) \$100 Enhanced subscale demonstration - (U) \$866 Other technical support - (U) \$4,966 Total				
(U) B. Program Change Summary (\$ in Thousands)				
Previous President's Budget Appropriated Value	995 FY 1996 966 4,177 966	FY 1997 5,234	Total <u>Cost</u> Continuing	
(U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR	-24 -82 -53 -91			
c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1995 PB (U) Current Budget Submit/President's Budget	204 1093 3,930	-268 4,966		
(U) Change Summary Explanation: Funding: Decrease in FY96 is reprogramming to fund Bosnia and F-16s to Jordan. Program reduced in FY97 to fund high priority efforts and for revised ecc	osnia and F-16s to Jordan. efforts and for revised economic assumptions.	omic assumptions.		
	Page 5 of 9 Pages	(es		Exhibit R-2





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

March 1996

DATE

0604258F Target Systems Development

PE NUMBER AND TITLE

BUDGET ACTIVITY

6 - Management Support

PROJECT NO. AND NAME

2459 Target Payload System

Schedule: None

Technical: FY97 cuts reduced the scope of new technology upgrade and the RF survivability effort and technology upgrades for both Full Scale and Subscale Aerial Targets.

(U) C. Other Program Funding Summary (\$\sec{8}\$ in Thousands) Not Applicable

(U) **D.** Schedule Profile
Refer to Program Element Schedule, Page 2, Section D

Page 6 of 9 Pages

RDT&E BUDGET ITEM JUS	STIFICA	TION SI	HEET (R	TIFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 6 - Management Support		PE NI 060	PE NUMBER AND TITLE 0604258F Targ	PE NUMBER AND TITLE 0604258F Target Systems Development	stems Do	evelopm	ent		
PROJECT NO. AND NAME 3165 QF-4 Development									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3165 QF-4 Development	6,243	1,125	0	0	0	0	0	Continuing	51,113
(U) A. Mission Description and Budget Item Justification The Air Force is lead for a tri-service program for the development of the QF-4E full scale aerial target. The QF-4E is the follow-on to the QF-106 full scale target used today. The final buy of the QF-106 was in FY93 with deliveries complete in 4Qtr94. The first QF-4 production is scheduled for delivery in 3Qtr FY96 and is funded by PE 53 167 procurement. Additional production options are scheduled to begin delivery in 3Qtr97 and 3Qtr97 in CQF-4F pull-scale Aerial Target (FSAT) will be procurement. Additional production options are scheduled to begin delivery in 3Qtr97 and 3Qtr97 in CQF-4F pull-scale carget services to in improve all carget which in the analysis of the threat, with realistic maneuvering prover-land test requirement. The lawy all objective is to improve air-lo-air weapon system accuracy and reliability by developing aerial target systems for Air Force weapon system test and evaluation. Public law mandates all new or upgraded weapon systems must demonstrate lethality against a representative threat before approval to proceed with procurement. In addition to AMRAAM, AIM-7, AIM-9X, and F-22, full-scale targets are also used to support US Army air defense test and evaluation programs such as the Divisional Air Defense follow-on program, Stinger, Paritor and Improved Hawk. (U) EY 1995 (8000 in Thousands): - (U) \$4,335 Complete Engineering and Manufacturing Development (EMD) phase of contract (NSP) - Conduct final software Physical Configuration Audit (PC-A) (NSP) - (U) \$4,335 Other Technical Support - (U) \$6,243 Total - (U) \$6,243 Total - (U) \$6,243 Total - (U) \$9,242 Complete EMD phase of program clopment of the deliveries of an options are set over-water set over-water set over-water and compared (IR) system test and proceed with rograms such and through D wiew #2 (NS) se production configuration facturing Developments of the configuration facturing (Image testing (Image t	he QF-4E fi omplete in 4 scheduled to test require Y99. Full-so signature. The contraction of the contraction of the deviation of the contraction	all scale aeri tQtr94. The o begin delix ament, and tl cale targets: The overall (n. Public lay nt. In additi sional Air D (NSP) (NSP) 3MD) phase integrated (opment of the QF-4E full scale aerial target. The deliveries complete in 4Qtr94. The first QF-4 procoptions are scheduled to begin delivery in 3Qtr97 a cover-water test requirement, and then (4Qtr97) op QF-4E in FY99. Full-scale targets are representatifarared (IR) signature. The overall objective is to in stem test and evaluation. Public law mandates all roceed with procurement. In addition to AMRAAN grams such as the Divisional Air Defense follow-opproduction option #1) (NSP) production option #1) (NSP) figuration Audit (PCA) (NSP) cturing Development (EMD) phase of contract (NS Missile Range for the integrated QF-4E system (ge testing (NSP)	he QF-4E is production is 37 and 3Qtr5) operated at tative of the tative of the o improve ai all new or uj AAM, AIM w-on progra: ing (NSP) m (NSP)	the follow-c s scheduled 1 98 respective the White 5 threat, with ir-to-air wea pgraded wea 7, AIM-9X, m, Stinger, 1	on to the QF- for delivery i sly The QF- sands Missila realistic man pon system s and F-22, fu Patriot and I.	opment of the QF-4E full scale aerial target. The QF-4E is the follow-on to the QF-106 full scale target delivers complete in 4Qtr94. The first QF-4E production is scheduled for delivery in 3Qtr FY96 and is options are scheduled to begin delivery in 3Qtr97 and 3Qtr98 respectively The QF-4 Full-scale Aerial cover-water test requirement, and then (4Qtr97) operated at the White Sands Missile Range, NM to med 2F-4E in FY99. Full-scale targets are representative of the threat, with realistic maneuvering fraced (IR) signature. The overall objective is to improve air-to-air weapon systems curacy and reliabli stem test and evaluation. Public law mandates all new or upgraded weapon systems must demonstrate roceed with procurement. In addition to AMRAAM, AIM-7, AIM-9X, and F-22, full-scale targets are a grams such as the Divisional Air Defense follow-on program, Stinger, Patriot and Improved Hawk. Through Drone Formation Control System testing iew #2 (NSP) Forduction option #1) (NSP) Infiguration Audit (PCA) (NSP) Is Missile Range for the integrated QF-4E system (NSP) ge testing (NSP)	target and is verial to meet reliability strate is are also vk.	
		Page / of 9 Pages	y Pages				Exhibit K-2	2-5	



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	(-2 Exhibit)	DATE	Е March 1996
BUDGET ACTIVITY 6 - Management Support	⊓⊓∟E Farget System	s Development	
Conduct drone operations training (NSP) Conduct QF-4 FSAT Physical Configuration Audit (NSP) Deliver FSAT system level III drawing package (NSP) Exercise Production Option #2 (NSP) Receive first production QF-4 FSAT target (NSP) (U) \$183 Other technical support			
(U) <u>FY 1997 (\$ in Thousands)</u> : - (U) \$0 Total			
(U) B. Program Change Summary (S in Thousands)			
Previous President's Budget FY 1995 FY 1996 Appropriated Value 6,610 1,191	$\frac{\text{FY } 1997}{0}$	Total <u>Cost</u> TBD	
(U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram			
d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1995 PB -214 -6 (U) Current Budget Submit/President's Budget 1,125	0	TBD C	
(U) Change Summary Explanation: Funding: FY96 reduced to reflect revised inflation and reprogramming for Bosnia.			
Schedule: None			
Technical: None		ц	Exhibit R-2
Page 8 of 9 Pages			-Aillon 18-2

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhib	it)	DATE		March 1996
BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0604258F Target Systems Development	tems Develo	opment		
PROJECT NO. AND NAME 3165 QF-4 Development					
(U) C. Other Program Funding Summary (\$ in Thousands)					
FY 1995 FY 1996 FY	FY 1997 FY 1998 FY 1999	FY 2000 FY	FY 2001	To Compl	Total <u>Cost</u>
(U) FE 33110F: Appropriation: Weapons Procurement, AF Budget Activity: 4, Frogram 11tte: Target Drones WSC: M04AQF (QF-4E) 21,274 21,144\$0	23,924 21,274 21,144\$0	20,840 21	21,180	Cont	TBD
(U) D. Schedule Profile Refer to Program Element Schedule, Page 2, Section D.					



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RDT&E BUDGET ITEM JUSTIFICATION	JSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
вирдет астіліту 6 - Management Support	PE NUMBER AND TITLE 0604759F Major Test And Evaluation Investment	nvestment

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	48,492	38,815	33,529	39,472	39,580	40,755	39,563	Continuing	TBD
3120 Air Force Development Test Center (AFDTC)	15,442	10,546	9,405	16,317	19,870	21,610	17,882	Continuing	ТВD
3285 Arnold Engineering Development Center (AEDC)	10,235	5,368	5,745	5,305	5,473	4,153	6,038	Continuing	ТВD
3620 Air Force Flight Test Center (AFFTC)	22,815	19,901	18,379	17,850	14,237	14,992	15,643	Continuing	ТВО
2904 Holloman Hypersonic Sled Track	0	3,000	o	0	0	0	0	0	0

testing to operational testing. These three test centers have over \$10B worth of unique test facilities/capabilities. They are a national asset operated and maintained by the the changes in funding from year to year do not necessarily indicate program growth but rather a planned phasing of improvement and modernization efforts. (For FY 96 The purpose is to help test centers keep pace with emerging weapon system technologies. The fluctuations in the funding at these locations are due to changing priorities Air Force for DoD test and evaluation missions, but they are available to others having a requirement for their unique capabilities. (FY96 Congressional language added unwarranted duplication of effort) and are documented in the Test Capability Master Plans. Further, each specific project has its own planning, development, equipment \$3 million for the Holloman High Speed Test Track to PE 65708F, which no longer exists. These funds, which are not included in the FY 96 total, will be included in a (U) A. Mission Description and Budget Item Justification: This program element provides planning, improvements, and modernization for test capabilities at three acquisition/facility construction, equipment installation, and checkout phases which often requires significant differences in funding from one year to the next. As such, Air Force Test Centers: Arnold Engineering Development Center (AEDC), Air Force Development Test Center (AFDTC), and Air Force Flight Test Center (AFFTC). only 17 of 124 validated projects are funded, which reflects the mandated downsizing of the DoD budget, not a change in requirements.) The test capabilities at these centers enable testing through all phases of weapon system acquisition from system concept exploration through component and full scale integrated weapon system Investment Strategic Plan. Also, all projects have been reviewed through the Tri-Service Reliance effort (to communicate AF efforts to the other services and avoid in the improvement and modernization requirements as defined through the AF Test Investment Planning & Programming Process and documented in the AF Test separate project within this program element after release from OSD withhold.

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RDT&E BUDGET ITEM JUSTIFICATIO	TIFICATION SHEET (R-2 Exhibit)	۲-2 Exhib	it)	DATE March 1996
BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0604759F Majo	тп∟Е Major Test	PENUMBER AND TITLE 0604759F Major Test And Evaluation Investment	Investment
(U) B. Program Change Summary (\$ in Thousands): FY 1995	FV 1996	FV 1997	Total Cost	
	37,879	36,229	Cont	
(U) Adjustments to Appropriated Value				
a. SBIR	-313			
b. ADP Savings Sec 8101	<i>L</i> -			
c. Economic Assum Sec 8125	-227			
d. FFRDCS Sec 8046	-			
e. Ovrhead/Imprvd Mgmt Sec 8129	-506			
f. Bosnia Reprogramming 1	-1,010			
g. Adjustments to FY 97 Budget Year (I) Current Budget Submit/President's Budget	35.815	-2,700 33 5 29	Cont	
	60,00	7,00	1100	
(U) Change Summary Explanation:	•			
Funding: Funding reduced during FY 9/ PB build to realign resources with actual requirements.	vith actual require	ments.		

Schedule: None.

Technical: None.

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RDT&E BUDGET ITEM JUSTIFICAT	TIFICATION SHEET (R-2 Exhibit)	[R-2 E	xhibit)		ď	DATE March 1996
вирсет астіvіту 6 - Management Support	PE NUMBER AND TITLE 0604759F Majo	and title F Major	Test An	d Evalu	lation In	D TITLE Major Test And Evaluation Investment
(U) C. Other Program Funding Summary (\$ in Thousands): 1995 Appropriation: Military Construction, 20,000 Budget Activity: Defense-Wide Mission Support, Program Title: McKinley Lab Upgrade	<u>1997</u> 1998	1999	2000	2001	Compl N/A	Cost 62,000
Appropriation: <u>Military Construction</u> , Budget Activity: <u>Defense-Wide Mission Support,</u> Program Title: <u>Fighter Inlet Flow</u>	4,000 5,700	9			0	9,700
Related RDT&E: (U) PE 0604940D, Central Test & Evaluation Improvement Program (U) PE 0604256F, Threat Simulator Development (U) PE 0604735F, Combat Training Ranges						
(U) D. Schedule Profile: Not applicable.						
	Page 3 of 17 Pages	ses				Exhibit R-2

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March 1996 0604759F Major Test And Evaluation Investment DATE RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 3120 Air Force Development Test Center (AFDTC) 6 - Management Support PROJECT NO. AND NAME BUDGET ACTIVITY

simulation capability; and determines target/test item electronic signatures. The Guided Weapon Evaluation Facility (GWEF) provides a full spectrum, multifunctional specifically at the Eglin Ranges for munitions testing. These projects ensure test center technology is compatible with weapon systems to be tested such as AMRAAM, (U) A. Mission Description and Budget Item Justification: The AFDTC, located at Eglin AFB, FL, conducts and supports developmental test and evaluation and seeker/sensor laboratory test capability for all guided weapons. Common Airborne Instrumentation System (CAIS) Integration provides standardized airborne test to enhance interoperability and commonality. GPS Range Systems will provide a major improvement for Time-Space-Position-Information (TSPI) at all MRTFBs and operational test and evaluation of non-nuclear air armaments, electronic warfare systems, and target acquisition and weapon delivery systems; provides a climatic JDAM, AGM-130, ASRAAM, JTIDS, JSTARS, Combat Talon, etc.

TBD

Continuing

17,882

21,610

19,870

16,317

9,405

10,546

15,442

Total Cost

Cost to Complete

FY 2001 Estimate

FY 2000 Estimate

FY 1999 Estimate

FY 1998 Estimate

FY 1997 Estimate

FY 1996 Estimate

FY 1995 Actual

COST (\$ In Thousands)

3120 Air Force Development Test Center (AFDTC)

Page 4 of 17 Pages



DATE March 1996	on Investment		efforts Reactive Loop. iilize the distribution network to control two test area scene amory to support millimeter Wave ods into one, allowing it to support upport Systems. an C Time Code Generators (TCGs), try (TM). ission control rooms to provide full ar for real-time network upgrade. PI range efforts to incorporate Range dion of support equipment to upgrade Acquired pre-production CAIS units nge Data System upgrades. and Joint	Exhibit R-2
RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	BUDGET ACTIVITY 6 - Management Support 6 - Management Support	PROJECT NO. AND NAME 3120 Air Force Development Test Center (AFDTC)	(U) \$1,375 PRIMISS. Completed the third phase of the GWEF/PRIMES link, (advanced scenario simulators) and completed the procurement of data analysis and completed the Rade Frequency (RP) Spectrum Monitor/Verification System and initiated feltar Reactive Loop. (U) \$1,375 analysis and completed the Rade Frequency (RP) Spectrum Monitor/Verification System and mitiated efforts Reactive Loop. (GWEF. Continued acquisition of the Infrared (IR) Target Generator, began software development to utilize the distribution network to support multimode seeker testing, started procurement of an antil-mode feet capability to simultaneously control two test area scene generators and real-time simulations, and began procurement of an antil-mode feet capability to simultaneously control two test area scene generators and real-time simulations, and began procurement of NAWW simulation. (U) \$1,205 Seeker T&E completes IR Ped Consolidation which combines the capabilities of two instrumentation pods into one, allowing it to support and its scenarios. Continued procurement of NAWW statement to four transportable microwave (AWW) antenna towers, and upgraded Range felemetry (TM). (U) \$1,123 Mission Control/Data Analysis. Continued doe data analysis system and procured a computer for real-time network upgrade. (U) \$2,293 Common Airborne Instrumentation System (CAIS). Continued procurement and integrated TSPI range efforts to incorporate Range ground stations, purchased portable TM units, and updated computer assisted design (CAD) systems. Acquired pre-production CAIS units for bench mode work on the following projects (less than \$1,000 each): Climatic Test Facility upgrades, Range Data System upgrades. (U) \$1,028 Common Airborne Instrumentation Every than \$1,000 each): Climatic Test Facility upgrades, Range Data System upgrades. (U) \$1,028 Continued work on the following projects (less than \$1,000 each): Climatic Test Facility upgrades, Range Data System upgrades. (U) \$1,54,42 Total	Page 5 of 17 Pages
	BUDGET ACTIVITY 6 - Managen	PROJECT 3120 A	(E)	

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RDT	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 6 - Management Support		PE NUMBER AND TITLE 0604759F Major Test And Evaluation Investment
PROJECT NO. AND NAME 3120 Air Force Develop	ROJECT NO. AND NAME 3120 Air Force Development Test Center (AFDTC)	
(U) <u>FY 1996 (\$ in The</u> - (U) \$5,395	(U) FY 1996 (\$ in Thousands) Planned Program: - (U) \$5,395 CAIS integration will procure interim CAIS production units to provide commonality and interoperability to aircraft instrumentation. Continue acquisition of support equipment for ground stations, portable Test Information Management (TIM) equipment, and CAD system upgrades. Continue pod development, procuring video cameras, recorders and time code generators.	id interoperability to aircraft instrumentation. In Management (TIM) equipment, and CAD system le generators.
- (U) \$ 3,252	GWEF will develop software and hardware to provide multimode targets for hardware-in-the-loop (HITL) testing, continue investments in an expanded radar simulator with acquisition of software and hardware to provide expanded RF/MMW simulation capabilities in the GWEF. Complete the IR target generator project, adding target/background scenes required to conduct HITL testing of long-wave guided weapons.	n-the-loop (HITL) testing, continue investments in ided RF/MMW simulation capabilities in the ired to conduct HITL testing of long-wave guided
- (U) \$1,899 - (U) \$10,546	GPS Range integration will continue data link acquisition and integration of RAJPO equipment to fully implement GPS architecture on Eglin Test Ranges. Total	npment to fully implement GPS architecture on
(U) <u>FY 1997 (\$ in The</u> – (U) \$4,168	(U) <u>FY 1997 (\$ in Thousands) Planned Program</u> : - (U) \$4,168 Continue CAIS integration, procure CAIS production units, and continue procurement of support equipment for bench, laboratory, and	of support equipment for bench, laboratory, and
- (U) \$3,081	preflight. GWEF will complete the multimode project, continue expanded radar simulator and begin development of multispectral man-in-the-loop.	in development of multispectral man-in-the-loop.
- (U) \$2,011 - (U) \$145	Continue procurement of GPS instrumentation for surface and airborne 15P1. Continued work on the following projects (less than \$1,000 each): Joint Program Office (JPO) for T&E support.	. (JPO) for T&E support.
9		
	Page 6 of 17 Pages	Exhibit R-2



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R.	.2 Exhibit)	DATE	E March 1996
BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0604759F Majo	TLE ajor Test And	PENUMBER AND TITLE O604759F Major Test And Evaluation Investment	estment
PROJECT NO. AND NAME 3120 Air Force Development Test Center (AFDTC)				
(U) B. Program Change Summary (\$ in Thousands):			Total	
(U) Previous President's Budget 15,442	FY 1996 11,546	FY 1997 10,161	Cont	
(U) Appropriated Value (U) Adjustments to Appropriated Value a. Small Business (SBIR) Spread b. ADD Savings SFC 8101	-95 -2			
c. Economics Assum SEC 8125 d. FFRDCS SEC 8046	-69 -1			
e. Ovrhead/Imprvd Mgmt SEC 8129 f. Bosnia Reprogramming 1 g. Minor adjustment to FV 97 Budget Year	-154 -679	-756		
(U) Current Budget Submit/President's Budget 15,442	10,546	9,405	Cont	
(U) Change Summary Explanation: Funding reduced during FY 97 PB build to realign resources with actual requirements.	ith actual requirem	ents.		
Schedule: None.				
Technical: None.				

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Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0604759F Major Test And Evaluation Investment	Investment
PROJECT NO. AND NAME 3120 Air Force Development Test Center (AFDTC)		
(U) C. Other Program Funding Summary (\$ in Thousands): 1995 Appropriation: Military Construction, Budget Activity: Defense-Wide Mission Support, Program Title: McKinley Lab Upgrade	7 1998 1999 2000 2001 Compl Cost	0
Related RDT&E: (U) PE 0604940D, Central Test & Evaluation Improvement Program (U) PE 0604256F, Threat Simulator Development (U) PE 0604735F, Combat Training Ranges		
(U) D. Schedule Profile: Not applicable		
	Page 8 of 17 Pages	Exhibit R-2

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION SI	HEET (R	-2 Exhil	bit)		DATE IV	March 1996	9
BUDGET ACTIVITY 6 - Management Support		PE NI	PE NUMBER AND TITLE 0604759F Majo	ENUMBER AND TITLE 0604759F Major Test And Evaluation Investment	t And Ev	aluation	Investme	ent	
PROJECT NO. AND NAME 3285 Arnold Engineering Development Center (AEDC)									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost

(U) A. Mission Description and Budget Item Justification: Arnold Engineering Development Center (AEDC), Arnold AS, TN, provides ground environmental test wider availability of workstations. The Fighter Engine Test Capability will upgrade turbine engine test cells to accommodate higher thrust engines, and upgrade J-2 test Processing System (DAPS) provides processing capability for advanced turbine engine testing on programs like the F-22. This effort also upgrades data systems for the support for DoD aeronautical, missile, and space programs. The center has 53 test facilities providing: aerodynamic testing of scale model aircraft, missile, and space systems; testing of large and full-scale satellites, sensors, and space vehicles in a simulated space environment; altitude environmental testing for aircraft, missile, and program costs and schedule delays. The Computer Aided Modernization Project (CMP) will provide increased capability for data processing and storage and provide arc heaters and hypervelocity gun facility for Theater High Altitude Air Defense (THAAD) testing. Inefficiencies in these current data systems result in increased spacecraft propulsion systems; and testing of large-scale models such as space boosters together with their propulsion systems. The AEDC Data Acquisition and cell with Exhaust Gas Management System for axisymmetric vectored exhaust nozzles.

TBD

Continuing

6,038

4,153

5,473

5,305

5,745

5,368

10,235

Arnold Engineering Development Center (AEDC)

(U) FY 1995 (\$ in Thousands) Program:	1,730 Continued AEDC Data Acquisition and Processing System with acquisition and installation of additional work stations/processors.		1,724 Completed design, purchase vacuum jacketed piping and begin fabrication to upgrade the J-4 Cryogenic Liquid Rocket Test Capability.	Ū		_	Joint Program Office (JPO) for T&E support.	10,235 Total
(U) FY 199	- (U) \$4,730	- (U) \$2,053	- (U) \$1,724	•	- (U) \$1,728			- (U) \$10,235

d d

Page 9 of 17 Pages

quisition and Processing es to all data analysis are stations. (second incremand also with external cadditional work stations otal cost cont	RDT&E PROGRAM ELEMENT/P	M ELEMENT/PROJE	ROJECT COST BREAKDOWN (R-3)	AKDOWN (DATE March 1996
sering	BUDGET ACTIVITY 6 - Management Support		PE NUMBER AN 0604759F	ЭТІТЕ Major Test A	nd Evaluation Ir	vestment
(U) FY 1996 (\$ in Thou - (U) \$3,621 - (U) \$1,675 - (U) \$72 - (U) \$5,368 (U) FY 1997 (\$ in Thou - (U) \$3,583 (U) \$5,745 (U) \$663 (U) \$7,199 (U) \$1,499 (U)	PROJECT NO. AND NAME 3285 Arnold Engineering Developm	nent Center (AEDC)				
- (U) \$1,675 - (U) \$72 - (U) \$5,368 (U) FY 1997 (\$ in Thoo - (U) \$1,499 - (U) \$663 - (U) \$5,745 B. Program Change Su Previous President's Bud Appropriated Value Adjustments to Appropria a. Small Business (SBIR b. ADP Savings SEC 810 c. Economic Assum SEC d. Ovrhead/Imprvd Mgn e. Adjustment to FY 971 Current Budget Submit/P	(U) <u>FY 1996 (\$ in Thousands) Plant</u> – (U) \$3,621 Begin install: Complete des	uned Program: lation of the Aeropropulsion Systesign and procure system equipme	em Test Facility (AST ent for the engine test c	F) portion of the D ells and complete u	ata Acquisition and P.	rocessing System (DAPS). nalysis areas. Complete data
(U) FY 1997 (\$ in Thou – (U) \$3,583 - (U) \$1,499 - (U) \$663 - (U) \$5,745 B. Program Change Su Previous President's Bud Appropriated Value Adjustments to Appropria a. Small Business (SBIR b. ADP Savings SEC 810 c. Economic Assum SEC d. Ovrhead/Imprvd Mgn e. Adjustment to FY 971 Current Budget Submit/P	(U) \$1,675 (U) \$72 (U) \$5,368	OC of Phase I of CMP (replacement of Processes by which CAM/Cork on following projects (less that	nt of current system) as AD/CAE functions are a \$1,000 each): JPO (nd purchase Phase accomplished inte [&E] support	Il workstations. (secor rnally and also with e	nd increment) Complete external customers.
For gram Change Summary (\$ in Thousands): Froids FY 1995 FY 1996 FY 1997 Cost Previous President's Budget 10,235 5,522 6,205 Cont Appropriated Value -6,205 Cont Adjustments to Appropriated Value -46 Cont a. Small Business (SBIR) Spread -1 -33 b. ADP Savings SEC 8101 -33 -46 c. Economic Assum SEC -74 -460 d. Ovrhead/Imprvd Mgmt SEC 8129 -74 -460 c. Adjustment to FY 97 Budget Year 10,235 5,368 5,745 Cont Current Budget Submit/President's Budget 10,235 5,368 5,745 Cont	(U) FY 1997 (\$ in Thousands) Planz – (U) \$3,583 Continue AE engine test cs – (U) \$1,499 Continue pur – (U) \$663 Continue woi – (U) \$5,745 Total	ned Program: EDC Data Acquisition and Proces cells IOC ASTF portion of DAPS. Ichase of Phase II CMP workstations on following projects (less that	ising System with acquions (third increment).	isition and installa	tion of additional worl	k stations/processors in the
Previous President's Budget Appropriated Value Adjustment to Appropriated Value a. Small Business (SBIR) Spread b. ADP Savings SEC 8101 c. Economic Assum SEC d. Ovrhead/Imprvd Mgmt SEC 8129 e. Adjustment to FY 97 Budget Year Current Budget Submit/President's Budget Page 10 of 17 Pages Appropriated Value -46 -1 -33 -46 -46 -46 -46 -46 -46 -46 -46 -46 -46	(U) B. <u>Program Change Summary (\$ in</u>			FV 1997	Total	
-1 -33 -74 -460 10,235 5,368 5,745 Cont	 (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a Small Business (SRR) Suread 	10,23	1	6,205	Cont	
-460 10,235 5,368 5,745 Cont Page 10 of 17 Pages	b. ADP Savings SEC 8101 c. Economic Assum SEC d. Ovrhead/Imprvd Mgmt SEC 8129		-1 -33 -74			
	e. Adjustment to FY 97 Budget Year (U) Current Budget Submit/President's Bu			-460 5,745	Cont	
			Page 10 of 17 Pages			Exhibit R-3





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET	(R-2 Ex	hibit)			DATE Mar	March 1996	
BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0604759F Majo	ND TITLE F Major T	est And	Evalua	ition l	PENUMBER AND TITLE OCCUPATION INVESTMENT TO TABLE OCCUPATION INVESTMENT		
PROJECT NO. AND NAME 3285 Arnold Engineering Development Center (AEDC)								ī
 (U) Change Summary Explanation: Funding: Funding reduced during FY 97 PB build to realign resources with actual requirements. Schedule: None. 	with actual requ	irements.						
Technical: None.								
(U) C. Other Program Funding Summary (\$ in Thousands):						To	Total	
1995 1996	1997	<u>1998</u>	1999	2000	2001	Compl	Cost	
Appropriation: <u>Military Construction</u> , Budget Activity: <u>Defense-Wide Mission Support,</u> Program Title: <u>Fighter Inlet Flow</u>	4,000	5,700					9,700	
Related RDT&E: (U) PE 0604940D, Central Test & Evaluation Improvement Program								

(U) D. Schedule Profile: Not applicable.

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March 1996 0604759F Major Test And Evaluation Investment DATE RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 3620 Air Force Flight Test Center (AFFTC) 6 - Management Support PROJECT NO. AND NAME **BUDGET ACTIVITY**

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3620 Air Force Flight Test Center (AFFTC)	22,815	19,901	18,379	17,850	14,237	14,992	15,643	Continuing	TBD

of interoperability between systems and components by adherence to Air Force and DoD guidelines. The technologies being developed under ADAPS have the potential to GPS equipment developed by the RAJPO (OSD funded) for tri-service application. The Space Based Data Relay (SBDR) project provides the capability for ARIA to fulfill first generation post-test data processing, archival, and display requirements through the 1990s. The developmental approach is directed towards providing a high degree customer needs for real time, high-speed data, and greatly improve the overall range data relay capability. The ARIA Extended S-Band Telemetry upgrade ensures the interoperability/commonality. The goal of CAIS 1&S is to integrate CAIS equipment and supporting instrumentation equipment and systems to provide a full airborne instrumentation operational capability. The Advanced Data Acquisition and Processing Systems (ADAPS) project provides an integrated capability to satisfy real-time operational test and evaluation of aircraft and aircraft systems, aerospace research vehicles, unmanned miniature vehicles, cruise missiles, parachutes delivery/recovery satisfy data processing and display needs at various multi-service test ranges. The AF GPS RAJPO Equipment project provides funding for the purchase of production (U) A. Mission Description and Budget Item Justification: The AFFTC, located at Edwards AFB, conducts and supports developmental test and evaluation and systems, and cargo-handling systems. The AF Common Airborne Instrumentation System (CAIS) Integration & Support (CAIS I&S) supports DoD objectives for compatibility of the ARIA with the Expendable Launch Vehicles (ELV) and major DoD ranges.

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RDT	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 6 - Management Support	pport PENUMBER AND TITLE D604759F Major Test And Evaluation Investment	Investment
PROJECT NO. AND NAME 3620 Air Force Flight Test Center (AFFTC)	Test Center (AFFTC)	
(U) FY 1995 (\$ in Thousands) Program: - (U) \$1,650 Continued procusion (Continued procusion) \$5,161 Finished the deversity (Continued procusion) \$1,340 Continued (Continued Programs) Co	housands) Program: Continued procurement of RAJPO GPS equipment. Finished the development and installation of the prototype (build #1) ADAPS system. Began development of a mass storage and database capability. This system will eventually replace the 65,000 nine-track tapes currently being stored at the AFFTC. Under the Automated Test Data Management System (ATDMS) project, completed the development of the first automated data setup in support of the ADAPS system. Provided an interface to the Test Information Management System (TIMS). Conducted Preliminary Design	of a mass storage and database FFTC. first automated data setup in Conducted Preliminary Design
– (U) \$4,326	Review and Critical Design Review. Continued CAIS I&S development. Released version 2.2 of the TIMS software to support CAIS. Awarded development contract for data recorder, and continued to order CAIS hardware. Awarded requirements contract for TIMS ground support equipment. Awarded	development contract for data t equipment. Awarded
- (U) \$5,806 - (U) \$1,169 - (U) \$3,363	Began equipment purchase and T-2 Mod Design for the ARIA Space Based Data Relay System program. Continued the ARIA S-Band program with purchase of equipment and modification of first aircraft. Continued upgrades to several projects (less than \$1,000 each): Local Range Network, Digital Switch, Ground TSPI, Scientific and Computer Acquisition Project, Test Instrumentation Project, CAE/CAM, Test and Evaluation Mission Simulator (TEMS), Avionics Test	ound TSPI, Scientific and ulator (TEMS), Avionics Test
– (U) \$22,815	Day Systems (A.1.D.S.), and Joint Frogram Ource (J.F.O.) for read-support. Total	
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	Page 13 of 17 Pages	Exhibit R-2

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RDT	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 6 - Management Support	pport	PENUMBER AND TITLE 0604759F Major Test And Evaluation Investment	Investment
PROJECT NO. AND NAME 3620 Air Force Flight Test Center (AFFTC)	Fest Center (AFFTC)		
(U) <u>FY 1996 (\$ in T</u>) - (U) \$6,122 - (U) \$3,408 - (U) \$2,812 - (U) \$1,697 - (U) \$1990 (\$ in T] - (U) \$1997 (\$ in T] - (U) \$6,835 - (U) \$6,835 - (U) \$1,758 (U) \$7.1996 (\$ in Thousands) Planned Program: (U) \$6,122 Continue CAIS l&S development. Complete CAIS diagnostic bench integration. Purchase CAIS Complete TIMS integration with CAIS (assumes availability of CAIS units). (U) \$5,563 Complete TIMS integration with CAIS (assumes availability of CAIS units). (U) \$2,812 Complete TIMS space Based Data Relay System. Procure the first mass storage archivantume processing (RT/PP) system. Procure the first mass storage archivantume processing of RAIPO GPS equipment. Conduct acceptance testing of GPS equipment purchase of RAIPO GPS equipment. Conduct acceptance testing of GPS equipment undification. Commence equipment installation and aircraft modification. (U) \$1,697 Continue ARIA Extended S-Band program. Continue diffication. Continue dugrades to several projects (less than \$1,000 each): JPO T&E support. Continue ARIA Space Based Data Relay program. Continue CAIS I&S development. Purchase CAIS components for AFFTC use. Continue TIMS. Systems, automated diagnostics, and simulation capability. Begin development of a CAIS optical Processing archive system. Begin integration of AIS capabilities. (U) \$1,758 Continue the ARIA Extended S-Band equipment installation and modification on second aircraft. Continue the ARIA Extended S-Band equipment installation and modification on second aircraft. Continue the ARIA Extended S-Band equipment installation and modification on second aircraft. Couline the ARIA Extended S-Band equipment installation and modification on second aircraft. Couline the ARIA Extended S-Band equipment installation and modification on second aircraft. Couline and the ARIA Extended S-Band equipment installation and modification on second aircraft. Couline are all the ARIA Extended S-Band equipment installation and modification on second aircraft. Couline are all the ARIA Extended S-Band equipment of ARIA Exte	usands) Planned Program: Complete CAIS diagnostic bench integration. Purchase CAIS low rate data recorder initial spares. Complete TIMS integration with CAIS (assumes availability of CAIS units). OIOC first ADAPS real-time/post-processing (RT/PP) system. Procure the first mass storage archive system to replace nine track tapes currently being used. Continue Durchase of RAJPO GPS equipment. Conduct acceptance testing of GPS equipment purchase of rAJPO assumes availability of main africatal monfication. Continue ARIA Space Based Data Relay System program. Complete non-recurring engineering work on system design and T-2 aircraft modification. Continue the ARIA Extended S-Band program equipment installation and aircraft #14 modification. Continue the ARIA Extended S-Band program. Continue equipment installation and aircraft #14 modification. OSD Withhold Total Season Data Relay program. Continue equipment installation/fabrication and #2 aircraft modification. Continue CAIS I&S development. Purchase CAIS components for AFFTC use. Continue TIMS development with automated setup of systems, automated diagnostics, and simulation capability. Begin development of a CAIS optical bus interface unit. FOC of ADAPS RTE/PTP. Procure second mass storage archive system. Begin integration of ADAPS with ground test simulation capabilities. Continued work on following projects (less than \$1,000 each): Complete RAIPO GPS Integration, JPO (T&E) Support. Total	n to replace nine track tapes in FY 95. system design and T-2 aircraft frace unit. ith ground test simulation T&E) Support.	
	Pa	Page 14 of 17 Pages	Exhibit R-2

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (I	R-2 Exhibit)	٥	DATE March 1996
BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0604759F Majo	^{⊤ा⊤∟E} Major Test An	PENUMBER AND TITLE OCCUPING TOOK TOOK TOOK TOOK TOOK TOOK TOOK TOO	nvestment
PROJECT NO. AND NAME 3620 Air Force Flight Test Center (AFFTC)				
(U) B. Program Change Summary (\$ in Thousands):			Total	
(U) Previous President's Budget 22,815	$\frac{\text{FY } 1996}{20,811}$	FY 1997 19,863	Cont	
(U) Appropriated Value (U) Adjustments to Appropriated Value a. Small Business (SBIR) Spread	-172			
b. ADP Savings SEC 8101	-4 -125			
d. Ovrhead/Imprvd Mgmt SEC 8129	-278			
f. Adjustment to the FY 97 Budget Year (U) Current Budget Submit/President's Budget	19,901	-1,484 18,379	Cont	
(U) Change Summary Explanation: Funding: Funding reduced during FY 97 PB build to realign resources with actual requirements.	s with actual require	ments.		
Schedule: None.				
Technical: None.				
(U) C. Other Program Funding Summary (\$ in Thousands):				
 (U) Related RDT&E. (U) PE 0604940D, Central Test & Evaluation Improvement Program (U) PE 0604256F, Threat Simulator Development (U) PE 0604735F, Combat Training Ranges 				

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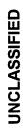
Page 15 of 17 Pages

(U) D. Schedule Profile: Not applicable.

RDT&E BUDGET ITEM JUST	STIFICA	FIFICATION SHEET (R-2 Exhibit)	IEET (R	-2 Exhit	oit)		DATE	March 1996	9
виреет астімту 6 - Management Support		PE NU 060	PE NUMBER AND TITLE O604759F Majo	TITLE Major Test And Evaluation Investment	t And Ev	aluation	Investme	int	
PROJECT NO. AND NAME 2904 Holloman Hypersonic Sled Track					:				
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
2904 Holloman Hypersonic Sled Track	0	3,000	0	0	0	0	0	0	0
(U) A. Mission Description and Budget Item Justification. (Maglev) development program.	Provides tec	Provides technological upgrades to the Holloman Hypersonic Sled Track through the Magnetic Levitation	pgrades to t	he Holloman	. Hypersonic	: Sled Track	through the	Magnetic L	evitation
(U) FY 1995 (\$ in Thousands): Not applicable.									
(U) FY 1996 (\$ in Thousands): - (U) \$3,000 Complete development and prototyping of a sled and rail girder system. - (U) \$3,000 Total	ing of a sled	and rail girde	er system.						
(U) FY 1997 (\$ in Thousands): None.									
(U) FY 1998 (\$ in Thousands): None.									
(U) B. Program Change Summary (§ in Thousands)									
(U) Previous President's Budget(U) Appropriated Value(I) Adjustments to Appropriated Value	FY 1995 0	FY	FY 1996 0 3,000	FY 1997 0	FY 1998 0	8 <mark>8</mark> 0	Total <u>Cost</u> TBD		
			3,000	0		0	TBD		
		Page 16 of 17 Pages	17 Pages			·	Exhibit R-2	-2	







RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 6 - Management Support	luation Investment
PROJECT NO. AND NAME 2904 Holloman Hypersonic Sled Track	
Schedule: None.	
Technical: None.	
(U) C. Other Program Funding Summary (\$ in Thousands): Not applicable	
(U) D. Schedule Profile	
(U) Complete prototype $\frac{\text{FY 1995}}{1}$ $\frac{\text{FY 1996}}{2}$ $\frac{\text{FY 1996}}{3}$ $\frac{\text{FY 1997}}{4}$ $\frac{\text{FY 1997}}{2}$ $\frac{\text{FY 1997}}{3}$	$\frac{7}{3}$ 4 1 2 3 4
Page 17 of 17 Pages	Exhibit R-2

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March 1996 0605101F Rand Project Air Force RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 1110 RAND Project AIR FORCE 6 - Management Support PROJECT NO. AND NAME **BUDGET ACTIVITY**

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
1110 RAND Project AIR FORCE	24,000	24,000	23,292	23,151	22,997	22,856	22,691	Continuing	Continuing

(U) A. Mission Description and Budget Item Justification

in addition, PAF provides quick response assistance for senior Air Force officials on high priority, near-term issues. Results and analytical findings directly impact senior continuing analytical research across a broad spectrum of aerospace issues and concerns. The PAF research agenda is focused primarily on mid- to long-term problems; involvement on a continuing basis. This program primarily focuses on studies and analyses, and is in Research Category and Budget Activity for Management Support. management deliberations on major issues. The Air Force Advisory Group (AFAG), chaired by the Vice Chief of Staff, reviews, monitors, and approves PAF research Program funds RAND Project AIR FORCE (PAF), the only Air Force Federally Funded Research and Development Center for studies and analyses. It provides for efforts. Each project is initiated, processed, and approved IAW PAF Sponsoring Agreement that requires General Officer (or SES equivalent) sponsorship and An initiative to increase FY98-03 funding will be addressed in the FFRDC Review.

- (U) PAF research continued to be organized in the seven projects shown in 1995. These seven projects were aimed at ensuring the Air Force can project aerospace power across the entire spectrum of conflict in an era of declining budgets, personnel, and force structure. These projects are continuing efforts, and do not lend themselves to a specific schedule profile.
- airpower operations in a joint theater campaign, implementing the Air Force C4I architecture, implementation of Ican logistics, economic viability of the military aircraft (U) In 1995, principal research efforts included studies on the future bomber force, Air Force operations within the JROC/JWCA process, airpower projection force mix, future aircraft technologies, enhancing the effectiveness of mobility forces, counter-proliferation, planning forces for the long-term security environment, modeling industry, and a new paradigm for Air Force acquisition.
- (U) In 1996, the principal focus of PAF research is to transition the Air Force into the 21st century. Where should the Air Force head in response to shifts in national security demands and diminished budgets? What are the problems and risks in getting there?
- (U) Projects to be undertaken in PAF address cross-cutting issues using an integrated end-to-end approach. The scope of the research agenda encompasses future security environment and strategy, force development and force application, operational sustainment, applications of new technology, advances in modeling and simulation and analytical methods, resource management and system acquisition.
- (U) PAF research is managed under three interrelated programs with integrated research at the division level; the projected level of effort in 1996 is shown below.

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RDT&E BUDGET ITEM JUSTIFICATION	STIFICATION SHEET (R-2 Exhibit)	DATE Marc	March 1996
BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0605101F Rand Project Air Force		
PROJECT NO. AND NAME 1110 RAND Project AIR FORCE			

(U) In 1997, Research will continue on long-term projects initiated in 1996 and prior years. New topics will evolve from the major issues established by the AFAG in which PAF has developed special expertise and can continue to make unique contributions to the Air Force. (U) PAF research will continue to be organized in three interrelated programs with integrated research at the division level; the projected level of effort in 1997 is shown below.

(U) FY 1995 (\$ in Thousands):

Strategy and Doctrine Force Structure Aero Systems Modernization Force Employment C31/Space Logistics Acquisition Total	•
- (U) \$3,800 - (U) \$2,300 - (U) \$4,200 - (U) \$3,100 - (U) \$3,100 - (U) \$3,300 - (U) \$3,200 - (U) \$3,000 - (U) \$4,200	^^^;-* (0)

(U) FY 1996 (\$ in Thousands):

Strategy and Doctrine	Force Employment and Modernization	Resource Management and System Acquisition	Division-Wide	Total
- (U) \$4,800	\$7,700	(U) \$7,200	(U) \$4,300	(U) \$24,000
3	3	3	3	3
1	ı	1	ı	ı

(U) FY 1997 (\$ in Thousands):

· Teni	Strategy and Doctrine	Force Employment and Modernization	Resource Management and System Acquisition	Division-Wide	Total
(U) FI 199/ (\$ III IIIONSAIION)	- (U) \$5,000	– (U) \$7,292	- (U) \$7,500	- (U) \$3,500	- (U) \$23,292

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RD & BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ION SHEET (F	?-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0605101F Ranc	PE NUMBER AND TITLE 0605101F Rand Project Air Force	
PROJECT NO. AND NAME 1110 RAND Project AIR FORCE			
(U) B. Program Change Summary (\$\sumsymbol{S}\$ in Thousands)			
101 / XXI		Total	lal
L	 1	76 671 CC	130
			Ž
(c) Appropriated value	00 25,924		
(U) Adjustments to Appropriated Value			
a. Cong Gen Reductions	00 -1924		
(U) Adjustment to Budget Years Since FY96PB		-3279	
(U) Current Budget Submit 24000	00 25,924	23292	
(I) Change Summary Evnlanation			
(c) compensation advantage.			
Funding:			

FY96 decreases: \$5K for ADP Savings, Sec 8101; \$156K for Economic Assumptions, Sec 8125; \$1417K for FFRDCs, Sec 8046; \$346K for Overhead, Improved Mgt, Sec 8129

FY97 decrease s: \$2571K for higher AF priority; \$708K for OMB/OSD-directed inflation adjustment

Not Applicable (U) C. Other Program Funding Summary (\$ in Thousands)

- (U) PAF efforts span functional and organizational boundaries. As a result, the research conducted relates to a wide spectrum of Air Force activities.
 - (U) The results are deposited with the Defense Technical Information Center for appropriate dissemination to other qualified recipients.
 - (U) To assure unnecessary duplication, each newly proposed research effort is reviewed by the Air Force Studies and Analysis Agency. (U) There is no unnecessary duplication of effort within the Air Force or the Department of Defense.

(U) D. Schedule Profile Not Applicable

Page 3 of 3 Pages



RDT	RDT&E BUDGET ITEM JUS	STIFICA.	TION SH	TIFICATION SHEET (R-2 Exhibit)	-2 Exhil	bit)		DATE M	March 1996	9
BUDGET ACTIVITY 6 - Management Support	pport		PE NU 060	PE NUMBER AND TITLE 0605306F Rance	⊓⊤∟E kanch Ha⊍	PENUMBER AND TITLE 0605306F Ranch Hand II Epidemiology Study	lemiolog	y Study		
PROJECT NO. AND NAME 2767 Ranch Hand II Epidemiology Study	pidemiology Study									
33	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
2767 Ranch Hand II Epidemiology Study	lology Study	3,156	3,025	9,212	602'6	4,526	4,667	4,730	Continuing	Continuing
(U) A. Mission Description and Bud United States for Domestic Affairs and Contaminants. As a result of this Presi personnel who were involved with aeria whether long-term health effects exist a from manufacturing Herbicide Orange.	get Item Justification: Policy upon the recomm dential direction, PE 060 Il spraying of herbicides and can be attributed to o	This RDT&I (endation of the page of the pa	E Management he Interager stablished to from 1962 to exposure to j	ent Support J toy Working o conduct a 2 o 1971 (Oper phenoxy her	program was Group on th 20-year epid ration Ranch bicides and t	s directed in he Possible I emiology inv i Hand). Thu their associa	1980 by the ong-Term I sestigation of objective of the dioxins.	Assistant to affects of Phe of approxima of this investi Dioxin is a	This RDT&E Management Support program was directed in 1980 by the Assistant to the President of the endation of the Interagency Working Group on the Possible Long-Term Effects of Phenoxy Herbicides and 15306F was established to conduct a 20-year epidemiology investigation of approximately 1,200 Air Force in Vietnam from 1962 to 1971 (Operation Ranch Hand). The objective of this investigation is to determine ccupational exposure to phenoxy herbicides and their associated dioxins. Dioxin is an unwanted by-product	it of the sides and ir Force letermine by-product
This project involves a 20-year study who were not exposed to herbicides while serstudy. Analyses of yearly mortality rates and the 3-, 5-, 10-, 15-, and 20-year time periods. medical records and family medical histories.	that compares Un ving in Vietnam. the past and press The study includ	nited States A Approximat ent health sta les examinati	ir Force (Uk ely 2,200 in ttus of the st ion of the po	SAF) Ranch dividuals (ex udy populati ssible occur	Hand persor sposed perso on were beg rence of birtl	nnel to other nnel group p un in 1982 v h defects in c	USAF crew dus control vith follow-r	members ar group) are part part part part part part part part	Approximately 2,200 individuals (exposed personnel to other USAF crew members and support person Approximately 2,200 individuals (exposed personnel group plus control group) are participating in the snt health status of the study population were begun in 1982 with follow-up health examination schedules examination of the possible occurrence of birth defects in children as determined from children's	arsonnel n the hedules at 's
(U) FY 1995 (\$ in Thousands): - (U) \$669 Complet - (U) \$729 Complet - (U) \$734 Conduct - (U) \$500 Demons - (U) \$524 Conduct	<u>housands</u>): Completed Year-10 morbidity report. Completed annual mortality update. Conducted statistical analysis of data sets. Demonstrated archiving of baseline physical exams. Conducted additional analyses and reports.	oort. nte. data sets. ne physical e id reports.	.xams							

(U) FY 1996 (\$ in Thousands):

Total

- (U) \$3,156

Issue Air Force Health Study contract. - (U) \$1,893

Complete annual mortality update. - (U) \$516 - (U) \$163 - (U) \$250 - (U) \$203

Complete archiving of 1985 physical exams.

Conduct Participant Data Base Management.

Conduct statistical analyses in support of journals and reports.

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Page 1 of 2 Pages

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (I	R-2 Exhibit	(1)	DATE March 1996
BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0605306F Rance	тіт <u>ге</u> Ranch Hand	אסוסוסום Epidemiology Study II Epidemiology	yy Study
PROJECT NO. AND NAME 2767 Ranch Hand II Epidemiology Study				
– (U) \$3,025 Total				
 (U) FY 1997 (\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\	onnaires, and partioing epidemiologi oing epidemiologi and digitize the 15	cipant data base c study. 97 data as receiv	 	
- (U) Conduct medical records coding and examination data base verification - (U) Perform annual mortality analysis (U) \$9,212 Total	nination data base	verification.		
(U) B. Program Change Summary (\$ in Thousands):			E-	
FY 1995	FY 1996	FY 1997	Cost	
(U) Appropriated Value 3,160	3,139 3,139	9,709	Cont	
(U) Adjustments to Appropriated Value a. Congressional/General Reductions -4	-61			
b. SBIR (U) Current Budget Submit 3,156	3,025	9,212	Cont	
(U) Change Summary Explanation: Funding: Funding levels vary due to timing of patient physical exams				
Schedule: Not Applicable.				
Technical: Not Applicable.				
(U) C. Other Program Funding Summary: Not Applicable.				
(U) D. Schedule Profile: Not Applicable.				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICAT	TION SI	HEET (R	-2 Exhit	oit)		DATE	March 1996	9
BUDGET ACTIVITY 6 - Management Support		PE NI 060	PE NUMBER AND TITLE 0605704F Thea	PE NUMBER AND TITLE OG05704F Theater Air Defense BMC4I	ir Defens	e BMC4			
PROJECT NO. AND NAME 1010 Theater Air Defense Battle Mgt C4I			•						
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
1010 Theater Air Defense Battle Mgt C4I	0	*0	12,496	18,382	18,126	18,149	17,863	0	TBD
* In FY 96 TAD BMC4I was funded in P.E. 27601 and included below for consistency.		y moved to	this P.E. af	ter this doc	umentation	was prepar	ed. FY 96 (subsequently moved to this P.E. after this documentation was prepared. FY 96 description of effort is	of effort is
(U) A. Mission Description and Budget Item Justification This project was established in response to a charter from ASD/C3I identifying the Air Force as the Executive Agent for Theater Air Defense Battle Management Command, Control, Communications, Computers, and Intelligence (TAD BMC4I). It supports the study, analysis, demonstration and establishment of integrated Command, Control, Communications, Computers, and Intelligence (TAD BMC4I). It supports the study, analysis, demonstration and establishment of integrated TAD BMC4I which fuses and expands on existing capabilities to support the theater CINCs. This project involves defining baseline TAD BMC4I architectures and	rom ASD/C31 ntelligence (T,	identifying AD BMC4I) ort the theat	the Air Ford). It supports	ce as the Exe s the study, a l'his project i	cutive Agen inalysis, den nvolves defi	It for Theate nonstration and paselin	r Air Defens and establis! te TAD BM(se Battle Man hment of inte C4I architect	nagement grated ures and
developing objective architectures; analyzing 1 AD BMC41 Issues in a continuated four start services of the se	to issues in a codeling and AD BMC4I r	coordinated any associal equirements cluded in Br	ted impacts of additional states of additional states and addition	on TAD BM on TAD BM ssessing allic ty 6 because i	CSI interope C4I interope ed TAD BM it provides n	regulation in rability, ide (C4I issues; a nanagement	antifying TAI and supporti support to tl	D BMC41 sh ing exercises he Executive	ortfalls and Agent for
(U) FY 1997 (\$ in Thousands):				,	;	i i	:	;	•
technical and operational/functional migrations.		validation	and migratic	on roadmap t	or objective	TAD BMC	41 architectu	architecture validation and migration roadmap for objective TAD BMC41 architecture, including required migrations.	required
and Joint Battle Management Command, Control, Communications, Computers, and Intelligence (BMC41) systems for disconnects and	nand, Control	is, programi I, Communi	s, systems, a cations, Con	nputers, and	Intelligence	(BMC4I) sy	rstems for di	isconnects an	d
opportunities to improve joint integrated EMC41 — (U) \$931 Continue Command and Control (C2) Plan development to fully integrate Battle Management and Intelligence functions, and plan automated Loint TAD BMC41 planning capability.	rated BMC41. 2) Plan devel litv.	opment to fi	ully integrate	e Battle Man	agement an	d Intelligenc	e functions,	and plan au	tomated
(U) \$2,555 Support CINCs' assessments of operational Theater Air Defense capabilities, identify procedural and architectural shortcomings, and experiment with potential procedural and hardware/software solutions and demonstrations which support the Theater Air Defense (TAD)	rational Thea al and hardwa	ter Air Defe tre/software	ense capabili solutions an	ties, identify id demonstra	procedural tions which	and architec support the	tural shortce Theater Air	omings, and Defense (TA	(D)
architecture. – (U) \$12,496 Total									
		Page 1 o	Page 1 of 2 Pages				Exhibit R-2	R-2	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE March 1996
виреет астімту 6 - Management Support	PE NUMBER AND TITLE 0605704F Theater Air Defense BMC4I	
PROJECT NO. AND NAME 1010 Theater Air Defense Battle Mgt C4I		
(U) B. Program Change Summary (\$ in Thousands)		-
(U) Previous President's Budget (FY 1996) (U) Appropriated Value (U) Adjustments to Appropriated Value	$\begin{array}{ccc} & & & & & & & & & & & & & & & & & &$	
b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/President's Budget	+12,496	
(U) Change Summary Explanation:		
(U) C. Other Program Funding Summary (\$ in Thousands): Not Applicable	Ð	
·		
Pa	Page 2 of 2 Pages	Exhibit R-2

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION SI	HEET (R	-2 Exhil	oit)		DATE	March 1996	9
BUDGET ACTIVITY 6 - Management Support		PE NI 060	PE NUMBER AND TITLE 0605712F Initial Operational Test & Eval	ntle itial O pe	rational	Test & E	val		
PROJECT NO. AND NAME 0191 Initial Operational Test & Evaluation									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost

will operate, maintain and support the system when deployed. In general, IOT&Es are performed on new systems in development, major modifications and other systems as (C41); and general. This PE funds the costs of the test (e.g., data reduction, range costs, etc.), not the development of test resources or the maintenance of test infrastructure. conditions before proceeding beyond low rate initial production. As an essential element of IOT&E, this PE will fund major Operational Utility Evaluations (OUE), Early directed. IOT&E programs are identified in five categories: aircraft/support; space; missile/munitions; computer, communication, command and control and information evaluation of a system's performance when the complete system is tested and evaluated against operational criteria by personnel with the same qualifications as those who (U) A. Mission Description and Budget Item Justification: This program funds IOT&E tests conducted to evaluate a system's operational effectiveness and suitability Operational Assessments (EOA) and Operational Assessments (OA) which support major milestones and decision points prior to Milestone III. IOT&E is an operational and to identify any operational deficiencies or need for modifications in support of the acquisition process. This PE funds Congressionally mandated IOT&E to support major weapon system acquisition decision (Milestone III). For major systems designated for use in combat, the law requires IOT&E be completed under realistic field

Continuing

33,216

32,255

31,320

34,601

26,921

23,806

30,504

Initial Operational Test & Evaluation

0191

(U) FY 1995 (\$ in Thousands)

- FY 95 IOT&E Planning Program: HQ AFOTEC conducted IOT&E on the following 96 programs. The FY 95 list of programs may not be all inclusive due to changing program schedules and "pop-up" requirements.
- (U) Category: Aircraft/Support F-15C/E Tactical Electronic Warfare System (TEWS), C-17, F-22 Advanced Tactical Fighter, Follow-Combat (SECT), KC-135R Expanded Refueling Capability (ERC), Compass Call, Loader 60K, B-1B Conventional Munitions Upgrade 111A System Improvement Program (SIP), Advanced Strategic and Tactical IR Expend (ASTE), CV-22 Osprey, Simulator For Elect on Tactical Reconnaissance System (FOTRS), B-2, B-1B Conventional Munitions Upgrade Program (CMUP), F-16 Block 50D, EF-Pgm Block D/E (B-1B CMUP BLK D/E), Directed IR Countermeasures (DIRCM), F-15 APG-63 Radar, AT/T-38 Avionics, F-117 Upgrades, and Joint Service Electronic CM System (JSECST). B-1 Electronic Countermeasures (ECM) and B-52 ALQ-172

Page 1 of 7 Pages

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE March 1996

PROJECT NO. AND NAME

BUDGET ACTIVITY

6 - Management Support

| 0605712F Initial Operational Test & Eval

PE NUMBER AND TITLE

0191 Initial Operational Test & Evaluation

- Phase III, Milstar, Integrated Correlation and Display System (ICADS), Survivable Defense Satellite Program (DSP-1), HAVE STARE ICBM Minuteman III Guidance Program Phase I (ICBM-MMIII GR), ICBM Minuteman III Propulsion Replacement Program (ICBM-Radar, Ground NDS Terminal (GNT), Brilliant Eyes (BE), Ballistic Missile Defense (BMD), DMSP Block VI, Early Warning Radar, GND Base Electro-Optical Deep Space Survival (GEODSS), Airborne Laser Lab (ABL), Alert Locate and Report Missiles (ALARM), Centralized Telemetry Processing Systems (RSA-CTPS), Advanced Electro-optical System (AEOS), Attach & Launch Early Report to Theater (ALERT), Ballastic Missile Defense System Command Control Element (BMD C2E), Evolved Expendable Launch Vehicle (U) Category: Space Cheyenne Mountain Upgrade (CMU), ICBM-Rapid Execution and Combat Target (REACT), Navstar GPS MMIII PRP), Navstar GPS Block IIR (GPS IIR), GPS Block II Follow-on (GPS IIF), RSA Network Control (RSA-NC), RSA (EELV), and ICBM Minuteman III Safety Enhanced Reentry Vehicle (ICBM MMIII SERV/W)
- Weapon (JSOW), AOD-Joint Programmable Fuze (JPF), AIM-9X Air-to-Air Missile (AIM-9X), Theater Missile Defense-Intercept (U) Category: Missile/Munitions QF-4, Sensor Fused Weapon (SFW), Joint Direct Attack Munitions (JDAM), Joint Standoff Missile (TMD-INTERCEPT), and AMRAAM (AIM-120C) P3I Phase 3 (AMRAAM P3I PH3).
- Multiservice), Joint STARS, E-3 Radar System Improvement Program (E-3 RSIP), AMC C-2 Info Processing System II-IV, Modular Global Transportation Network (GTN), Tower Restoral Vehicle (TRV), Advance Training System (ADV TNG SYS), E4B Universal Military Airspace Management System (MAMS), Common Missile Warning System (CMWS), Precision Landing System Receiver (U) Category: Computer, Communication, Command and Control and Information System (C41) JTIDS (JTIDS Class 2 terminal Intelligence System (CIS), Improvement of Selected Intelligence Data Handling (IDHS), Modular Control Equipment (MCE P3I), Modem (E-4B UM ATV), Combat ID/Cooperative Aircraft ID (CI/CAI), E4B Mod Miniature Receive Terminal (E4B MMRT), TACC (CTAPPS), Combat Survival Evader Locator (CSEL), Region/Sector Operations Control Center (R/SOCC), Combat (PLSR), and Theater Battle Management Core Systems (TBM Core).

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RDT&E BUDGET ITEM JUSTIFICATION	USTIFICATION SHEET (R-2 Exhibit)	DATE	March 1996
BUDGET ACTIVITY	PENUMBER AND TITLE 0605712F Initial Operational Test & Eval	val	
o - Maliagement Capport			
0191 Initial Operational Test & Evaluation			

(CWD-GCENS), AGM-130 Integration, Helmet Mounted Cueing System (HMCS), CWD-Fire Fighter's Ensemble (CWD-FFENS), and Universal Water Activated Release System (LS-UWARS), CCD-Multispectral Smoke (CCD-MS-SMOKE), Wind Correction Munitions (DERP), LS-Advanced Night Vision System (LS-ANVS), CSD-Transportable Blood Transshipment Center (CSD-TBT), BISS Active (U) Category: General CCD-Multispectral Decoys (CCD-MS Decoy), LS-Active Noise Reduction (LS-ANR), ABO-Armored Multi-Dispenser (WCMD), LS-Light Weight Low Profile Backstyle Parachute (LS-LTWT PARACHUTE), CWD Ground Crew Ensemble Denial System, Environmental Control Unit (ECU) Replacement, LS-Passenger Smoke and Fire Protection, SAB-POL RURK, LS-Role Vehicle (ABO-ARMRV), CCD-Vertical Smoke and Obscurant (CCD-V Smoke), CWD-Disposable Eye/Respiratory Protect RRR-Deployable Pavement Repair System (RRR-DPRS).

- (U) \$30,504 Tota

(U) FY 1996 (\$ in Thousands)

- FY 96 IOT&E Planning Program: HQ AFOTEC will conduct IOT&E on the following 102 programs. The FY 96 list of programs may not be all inclusive due to changing program schedules and "pop-up" requirements. - (U) \$23,806
- Countermeasures (B-1 ECM), Common Munitions Bit/Reprogram Equip (CMBRE), EF-111 Upgrades, Integrated Defensive Electronic Compass Call, CV-22 Osprey, F-15 APG-63 Radar, KC-135R Expanded Refueling Capability (ERC), Simulator for Electronic Combat (SECT), Advanced Strategic and Tactical IR Expend (ASTE), B-1B Conventional Munitions Upgrade Pgm Block D/E (B-1B CNUP (U) Category: Aircraft/Support F-15C/E Tactical Electronic Warfare System (TEWS), C-17, Loader 60K, F-22 Advanced Tactical Countermeasures (ID ECM), Joint service Electronic CM System Test (JSECST), Joint Service Fighter (JSF), Large Aircraft IR Fighter, Follow-on Tactical Reconnaissance System (FOTRS), B-2, B-1B Conventional Munitions Upgrade Program (CMUP), BLK D/E), B-52 ALQ 172 Modification, Directed IR Countermeasures SOF (DIRCM), AT/T-38 Avionics, B-1 Electronic Countermeasures (LIRCM), Preemtive Destruction Enemy Air Defense (PDEAD), and F16 Block 50D.
- (U) Category: Space Cheyenne Mountain Upgrade (CMU), Milstar, Integrated Correlation and Display System (ICADS), Survivable ICBM-MMIII PRP), Navstar GPS Block IIR (GPS IIR), GPS Block II Follow-on (GPS IIF), ICBM Minuteman III Guidance Program (EWR), Ground Base Electro-Optical Deep Space Surveillance (GEODSS), ICBM Minuteman III Propulsion Replacement Program Phase II (ICBM-MMIII GRP II), RSA Network Control (RSA-NC), RSA Centralized Telemetry Processing Systems (RSA-CTPS), (ABL), Attack and Launch Early Reporting to Theater (ALERT), Ballistic Missile Defense (BMD) System, Early Warning Radar Defense Satellite Program (DSP-1), HAVE STARE Radar, Ground NDS Terminal (GNT), DMSP Block VI, Airborne Laser Lab

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Exhibit

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

BUDGET ACTIVITY

0605712F Initial Operational Test & Eval PE NUMBER AND TITLE

March 1996

DATE

6 - Management Support

0191 Initial Operational Test & Evaluation (1) PROJECT NO. AND NAME

Vehicle (SERV/W), GPS-3, ICBM Minuteman III Miniature Receiver terminal (ICBM MMIII MMRT), Maui Space Surveillance Site Command Control Element (BMD C2E), Evolved Expendable Launch Vehicle (EELV), and ICBM MMIII Safety-Enhanced Reentry Advanced Electro-Optical System (AEOS), ICBM-Rapid Execution and Combat Target (REACT), Ballistic Missile Defense System (MSSS), Spaced-Based Infared Systems-High (SBIRS-High), and Spaced-Based Infared Systems-Low (SBIRS-LOW).

- (U) Category: Missile/Munitions Joint Direct Attack Munitions (JDAM), Joint Standoff Weapon (JSOW), AOD-Joint Programmable Fuze (JPF), AIM-9X Air-to-Air Missile (AIM-9X), Theater Missile Defense-Intercept Missile (TMD-Intercept), AMRAAM (AIM-120C) P3I Phase 3 (AMRAAM P3I PH3), and Sensor Fused Weapon (SFW), and Joint Air-to-Surface Stand-Off Missile (JASSM.
- (DCAPES), Precision Landing System Receiver (PLSR), Theater Battle Management Core Systems (TBM CORE) AMC C2 Integrated Plan System (TBM-CTAPS), Defense IE Mats Replace C2 Terminals (DIRET), Joint Precisian Approach & Landing System (JPALS), Planning System(AMC C2 IPS), Air Force Global Command and Control System (AF GCCS), TBM-Contingency Theater Automatic TBM-Combat Intelligence System (TBM-CIS), TBM-Wing Command & Control System (TBM-WCCS), and Tactical Weather Radar E4B Universal Modem (E4B UM ATV), Combat Intelligence System (CIS), Combat ID/Cooperative Aircraft ID (CI/CAI), E4B Mod Miniature Receive Terminal (E4B MMRT), Common Missile Warning System (CMWS), Del Crisis Action Plan and Execution Sys (U) Category: Computer, Communication, Command and Control and Information System (C4 I) Joint STARS, Combat Survival Airspace Management System (MAMS), Global Transportation Network (GTN), Tower Restoral Vehicle (TRV), Advance Training System (ADV TNG SYS), E3 Radar System Improvement Program (E3 RSIP), JTIDS Class 2 Terminal Multiservice (JTIDS CL2) Evader Locator (CSEL), Region/Sector Operations Control Center (R/SOCC), Modular Control Equipment (MCE P31), Military
- Advanced Technology Anit-G Suite (LS ATAGS), LS Light Weight Low Profile Backstyle Parachute (LS LTWT Parachute), Hard and RORS), BISS Active Denial System, Environmental Control Unit (ECU) Replacement, SAB-POL RURK, AGM-130 Integration, LS Protective Shield (ABO-EOD Shield), RRR-Deployable Pavement Repair System, ABO-Rapid Ordnance Removable System (ABO-(U) Category: General ABO-Armored Multi-Role Vehicle (ABO-ARMRV), AFF Crash/Fire, CCD-Vertical Smoke and Dobscurant Deeply Burred Target Defeat Cap (HDBTDC), CSD Chemically Hardened Air Transportable Hostpital (CSD-CHATH), and Wind (CCD-V Smoke), CCD-Laser Warning/Laser Defeat (Laser), CWD-Fire Fighter's Ensemble (CWD-FFEN), ABO-EOD/Medical Connection Munitions Dispenser (WCMD)

- (U) \$23,806

Exhibit R-2





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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

March 1996 DATE

6 - Management Support

BUDGET ACTIVITY

0605712F Initial Operational Test & Eval PE NUMBER AND TITLE

PROJECT NO. AND NAME

0191 Initial Operational Test & Evaluation

(U) FY 1997 (\$ in Thousands)

- (U) \$26,921

FY 97 IOT&E Planning Program: HQ AFOTEC will conduct IOT&E on the following 82 programs. The FY 97 list of programs may not be all inclusive due to changing program schedules and "pop-up" requirements.

- Compass Call, CV-22 Osprey, F-15 APG-63 Radar, KC-135R Expanded Refueling Capability (ERC), Advanced Strategic and Tactical TEWS), Common Munitions Bit/Reprogram Equip (CMBRE), Joint service Electronic CM System Tester (JSECST), and Airborne R Expend (ASTE), B1B Conventional Munitions Upgrade Pgm Block D/E (B1B CMUP BLK D/E), AT/T-38 Avionics, Common (U) Category: Aircraft/Support F-22 Advanced Tactical Fighter, B-2, B-1B Conventional Munitions Upgrade Program (CMUP), Missile Warning System (CMWS), Directed IR Countermeasures SOF (DIRCM), F-15 Tactical Electronic Warfare System (F-15 Structure, Loader 60K
- NC), Advanced Electro-Optical System (AEOS), Attach & Launch Early Report to Theater (ALERT), Ballistic Missile Defense System Block II Follow-on (GPS IIF), ICBM Minuteman III Guidance Program Phase II (ICBM-MMIII GRP II), RSA Network Control (RSA-(U) Category. Space Cheyenne Mountain Upgrade (CMU), Milstar, Integrated Correlation and Display System (ICADS), Survivable Defense (BMD) System, HAVE STARE Radar, Early Warning Radar (EWR), Ground Based Electro-Optical Deep Space Surveillance Command Control Element (BMD C2E), Space-Based Infared Systems-High (SBIRS-High), and Spaced-Based Infared Systems-Low (GEODSS), ICBM Minuteman III Propulsion Replacement Program (ICBM-MMIII PRP), Navstar GPS Block IIR (GPS IIR), GPS Defense Satellite Program (DSP-1), Ground NDS Terminal (GNT), DMSP Block VI, Airborne Laser Lab (ABL), Ballistic Missile
- (U) Category: Missile/Munitions Joint Direct Attack Munitions (JDAM), Joint Standoff Weapon (JSOW), AOD-Joint Programmable Fuze (JPF), AIM-9X Air-to-Air Missile (AIM-9X), Theater Missile Defense-Intercept Missile (TMD-Intercept), and Joint Air-to Surface Stand-Off Missile (JASSM).

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March 1996 DATE 0605712F Initial Operational Test & Eval RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 0191 Initial Operational Test & Evaluation 6 - Management Support PROJECT NO. AND NAME **BUDGET ACTIVITY**

- (U) Category: Computer, Communication, Command and Control and Information System (C41) Region/Sector Operations Control □Center (R/SOCC), Military Airspace Management System (MAMS), JOINT STARS, JTIDS Class 2 Terminal Multiservice (JTIDS CL2), E4B Mod Miniature Receive Terminal (E4B MMRT), Global Transportation Network (GTN), Precision Landing System Receiver (PLSR), Theater Battle Management Core Systems (TB CORE), and Combat Survivor Evader Locator (CSEL)
- Simulation, CCD-Runway Signature Characterization Disguise (CCD-RSCD), CSD-Transportable Blood Transshipment Center (CSD-CCD Multispectral Materials (CCD-MS Mats), CCD Point Target Observation System (CCD PTOS), CCD SOMS, Explosive Ordance Buried Ordnance Rem/Neutralization (ABO-Buried), CCD Fuzz, CWD Aircraft Interior Decon (CWD ACFT), CWD Aircraft Interior Corrected Munitions Dispenser (WCMD), BISS Delayed Denial Technology (BISS-DDT), CCD Laser Warning defeat (CCD-LWD), TBTC), Helmet Mounted Cueing System (HMCS), ABO-Mobile Ordnance Disrupter System (MODS), RRR-Deployable Pavement Repair System, ABO-Rapid Ordnance Removable System (ABO-RORS), Environmental Control Unit (ECU) Replacement, ABO-Aircraft Expedient Dispersal Tech, ABO-EHR Munitions Stores Bins/Containers, SAB-POL RURK, AGM-130 Integration, ABO Detector (CWD AIDET), CWD Body Cooling (CWD BODY), CWD Disposable Eye/Respiratory Protect (CWD DERP), Wind (U) Category: General ABO-Anti-Penetration Tactical Shelters (ABO-TAC), AFF Crash/Fire, RRR-Mat Anchoring, CCD-Protective Shields (EOPS), Elect Systems-Contingency Restoration Unit (ES-CRU), Water Systems CRU (WS-CRU).

(U) B. Program Change Summary (\$\sqrt{s}\$ in Thousands):

(U) \$26,921

26,921			700	23,806 26,921 Cont	
33,004 24,506			`1	33,004 23,	
(U) Previous President's Budget	(U) Appropriated Value	(U) Adjustments to Appropriated Value	a. Minor adjustments	(U) Current Budget Submit/President's Budget	

(U) Change Summary Explanation: Funding: None.

Schedule: None.

Technical: None.

7

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0605712F Initial Operational Test & Eval	val
PROJECT NO. AND NAME 0191 Initial Operational Test & Evaluation		
(U) C. Other Program Funding Summary (\$ in Thousands): Not applicable.		
(U) D. Schedule Profile: Not applicable.		
Pa	Page 7 of 7 Pages	Exhibit R-2

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UNCLASSIFIED

RDT&E BUDGET ITEM JUS		TIFICATION SHEET (R-2 Exhibit)	HEET (R	-2 Exhil	oit)		DATE N	March 1996	9
BUDGET ACTIVITY 6 - Management Support		PE NU 000	PE NUMBER AND TITLE O605807F Test	ा⊤∟E est And	ENUMBER AND TITLE OG EVALUATION Spt	n Spt			
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	499,033	423,827	425,195	437,024	435,323	440,687	429,031	Continuing	TBD
06TS Test and Evaluation Support (1)	377,227	316,725	314,101	322,541	317,638	321,465	309,128	Continuing	ТВD
06AS Aircraft Support (1)	34,476	12,294	12,161	13,137	13,850	15,054	16,292	Continuing	TBD
06MC Minor Construction (1)	3,531	3,588	3,717	3,893	4,084	4,204	4,329	Continuing	TBD
06MR Maintenance and Repair (1)	54,245	992'69	74,122	75,898	77,524	77,537	76,892	Continuing	ТВD
06TG 46 Test Group (1)	29,554	21,655	21,094	21,555	22,227	22,427	22,390	Continuing	TBD

(FY 95 total includes project 06UC). purpose of the transfer is to more evenly account for BOS-type efforts within PE 0605896F at the three major AF test centers. Similarly, approximately \$26,000 has Base Operating Support (BOS) funds (\$26,400 in FY 96) were transferred from PE 0605807 (Arnold Engineering Development Center) into PE 0605896F. The (1) Test and Evaluation Support, project 6606TS, was combined from projects 06RB, 06YA, and 06ZA in this PE, effective FY 96. also been transferred in FY 97-01.

Aircraft Support, project 6606AS, was transferred from PE 0605863F (combining projects 662111 and 662112), effective FY 96. Funding in FY 95 refers to PE 0605863F. 3

Minor Construction, project 6606MC, was transferred from PE 0605876F, effective FY 96. Funding in FY 95 refers to PE 0605876F.

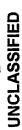
46 Test Group, project, 6606TG, was transferred from PE 0605708F, effective FY 96. FY 95 totals include both the test infrastructure and test investment portion of PE 0605708F. Beginning in FY 96, the funding in this project is only for test infrastructure. Radar Target Scatter investment transfers to PE 0604256F. (3) Minor Construction, project 6606MC, was transferred from PE 0605876F, effective FY 96. Funding in FY 95 refers to PE 0605876F.

(4) Maintenance and Repair, project 6606MR, was transferred from PE 0605878F, effective FY 96. Funding in FY 95 refers to PE 0605878F.

(5) 46 Test Group, project, 6606TG, was transferred from PE 0605708F, effective FY 96. FY 95 totals include both the test infrastructure and

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RDT&E BUDGET ITEM JUSTIFICATION	STIFICATION SHEET (R-2 Exhibit)	March 1996
BUDGET ACTIVITY PI	E NUMBER AND TITLE	
6 - Management Support	0605807F Test And Evaluation Spt	

above Air Force test activities. The increase in FY 97 represents funding for implementing the majority of the Level 1 requirements for Commander's Facility Assessment (U) A. Mission Description and Budget Item Justification: This program element consolidates five PEs (or portions thereof) as mentioned above. The aircraft support MRTFBs. The 46 Test Group (46TG) project provides the following unique capabilities as part of the DoD MRTFB: the High Speed Test Track (HSTT), Central Inertial Guidance Test Facility (CIGTF), and the Radar Target Scatter (RATSCAT) facility. The Test and Evaluation (T&E) Support program provides resources to operate the project provides resources for maintaining Air Force Materiel Command (AFMC) assigned test and test support coded aircraft which are included as a portion of the MRTFBs (Eglin AFB FL, Edwards AFB CA, and Arnold AFB TN). The Maintenance and Repair project provides real property maintenance and repair at the three Department of Defense Major Range and Test Facility Base (MRTFB). The Minor Construction project provides essential minor construction at the three Air Force with a particular emphasis on operational facilities and base infrastructure.

	Total Cost	Cont								Cont
	FY 1997 T								-33,140	425,195
	FY 1996	454,067	434,167		98-	-2,613	-5,801	-1,840		423,827
	FY 1995	499,033								499,033
(I) B. Program Change Summary (\$ in Thousands):		(U) Previous President's Budget	(U) Appropriated Value	(U) Adjustments to Appropriated Value	a. ADP Savings Sec 8101	b. Economic Assum Sec 8125	c. Ovrhead/Imprvd Mgmt Sec 8129	d. Bosnia Reprogramming 1	e. Adjustment to FY 97 budget year	(U) Current Budget Submit/President's Budget

(U) Change Summary Explanation:

Funding: FY 97 reduction due to civilian workforce reduction (- \$13,130) and inflation and cost savings adjustments (- \$20,010)

Schedule: Impacts of cuts TBD.

Technical: Impacts of cuts TBD.

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RDT&E BUDGET ITEM JUSTIFICATION 8	TIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 6 - Management Support 00	PENUMBER AND TITLE 0605807F Test And Evaluation Spt	

(U) C. Other Program Funding Summary (\$ in Thousands): Not applicable.

Related RDT&E:

- (U) PE 0605896F, Environmental Compliance
 (U) PE 0605896F, Base Operations RDT&E (Base operating support)
 (U) PE 0604759F, Major T&E Investment (Technical capability improvement and modernization)
 (U) PE 0604256F, Threat Simulator Development
 (U) PE 0604940D, Central Test & Evaluation Improvement Program (T&E investments for new tri-service test capabilities)
- (U) D. Schedule Profile: Not applicable.

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RDT&E BUDGET ITEM JUSTIFICATION (STIFICATION SHEET (R-2 Exhibit)	March 1996
BIDGET ACTIVITY PE	PE NUMBER AND TITLE	

6 - Management Support

0605807F Test And Evaluation Spt

06TS Test and Evaluation Support (1) PROJECT NO. AND NAME

Continuing Cost to Complete 309,128 FY 2001 Estimate 321,465 FY 2000 Estimate 317,638 FY 1999 Estimate 322,541 FY 1998 Estimate 314,101 FY 1997 Estimate 316,725 FY 1996 Estimate 377,227 FY 1995 Actual COST (\$ In Thousands) 06TS Test and Evaluation Support (1)

TBD

Total Cost

(1) Test and Evaluation Support, project 6606TS, was combined from projects 06RB, 06YA, and 06ZA in this PE, effective FY 96. FY 95 total includes project 06UC, Utah Test and Training Range). Base Operating Support (BOS) funds (\$26,400 in FY 96) were transferred from PE 0605807 (Arnold Engineering Development Center) into PE 0605896F. The purpose of the transfer is to more evenly account for BOS-type efforts within PE 0605896F at the three major AF test centers. Similarly, approximately \$26,000 has also been transferred in FY 97-01.

Test Center (AFDTC), Eglin AFB FL which provides the test infrastructure overhead support for non-nuclear air armaments (including aircraft guns, ammunition, bombs, unmanned miniature vehicles, cruise missiles, parachute delivery/recovery systems, and cargo handling systems, and Electronic Warfare (EW) systems for DoD and allied temporary duty travel; support contract costs for hardware and software engineering and maintenance; and minor improvement and modernization projects. Three major forces. The AFFTC also operates the Utah Test and Training Range (UTTR) in Northwest Utah which will be transferred to ACC in FY 97. (3) Air Force Development Department of Defense (DoD) Major Range and Test Facility Base (MRTFB). Test facilities/capabilities operated through this program include wind tunnels, rocket and Air Force test centers are supported by this project: (1) Arnold Engineering and Development Center (AEDC) which provides the test infrastructure overhead support to jet engine test cells, space environmental simulation chambers, armament test ranges, climatic test facilities, avionics test facilities, aircraft testbeds, dry lakebed landing refurbishment, repair, and replacement of worn or obsolete test equipment; test infrastructure for data collection, transmission, reduction, and analysis; civilian salaries; operate the largest complex of ground test facilities in the free world (includes transonic, supersonic, and hypersonic wind tunnels; rocket motor and turbine engine test provides test infrastructure overhead support for development and operational test and evaluation support for aircraft and aircraft systems, aerospace research vehicles, cells, space environmental test chambers, hyperballistic ranges; and other specialized facilities). (2) Air Force Flight Test Center (AFFTC), Edwards AFB CA which sites, and instrumented test ranges. T&E Support funds test infrastructure overhead activities including: command and supervisory staffs; supply stocks; upkeep, and missiles). AFDTC provides a scientific test process that supports the development and enhancement of munitions systems. This process reduces the risk of (U) A. Mission Description and Budget Item Justification: This project provides resources to operate the Air Force test activities which are included in the acquisition programs and ensures military equipment will work in the combat environment

(U) FY 1995 (\$ in Thousands) Program:

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RDT	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE OB05807F Test And Evaluation Spt	on Spt
PROJECT NO. AND NAME 06TS Test and Evaluation Support (1)	ion Support (1)	
- (U) \$143,333	Arnold Engineering and Development Center Continued test infrastructure overhead support to enable testing for classified programs, and unclassified programs (F-22, JDAM, F-15, F-	nclassified programs (F-22, JDAM, F-15, F-
- (U) \$6,300	16, Minuteman, and F-18). FY95 Omnibus funding for contract recompetition and conversion costs.	
- (U) \$2,976	Aircraft Modification Directorate Funded indirect labor and supporting expenses (training, travel, office supplies, etc.) and support services required for the aircraft modification mission in guarant of Distributed Budget Authority (DBA) programs in grant Services required for the aircraft	ort services required for the aircraft
- (U) \$121,447	Air Force Flight Test Center Continued to provide test infrastructure overhead support enabling testing of the B-1B, B-2, F-16, F-15E, F-22, AFTI/F-16,	-16, F-15, F-15E, F-22, AFTI/F-16,
003 719 717	Cunsnip/Comoat falon II, C-17, Avionics fest and integration Complex (ATIC), AKIA, SMILLS, ECCIM, electronic wariate (JSTAKS, F15-TEWS, etc.), and classified programs.	L.S., ECC.M., electronic wariare (J.S.I.A.K.S.,
- (U) \$17,300 - (U) \$2,700	COAST TEST THOU SCHOOL OPERATING COSES. Funded US test pilots to attend foreign test pilot schools.	
- (U) \$4,000	FY95 Omnibus funding for civilian pay locality increases. Air Force Development Took Content	
- (U) \$77,471	Continued test infrastructure overhead support for non-nuclear air armaments (AMRAAM, WCMD, AGM-130, IDL, OFP, SEEK EAGLE, TMD, JDAM, JSOW, ASRAAM, and AIM-9); electronic warfare (JSTARS, F15-TEWS, etc.); C41 (JTIDS, AWACS, BISS, Combat	CMD, AGM-130, IDL, OFP, SEEK EAGLE, C4I (JTIDS, AWACS, BISS, Combat
– (U) \$1,500	Intelligence Systems, Combat Weather Systems, etc.); and refurbishment of the Climatic Test Facility. FY95 Omnibus funding for Hurricane Erin relief	Facility.
- (U) \$377,227	Total	
(U) FY 1996 (\$ in Th	(U) FY 1996 (\$ in Thousands) Planned Program:	
– (U) \$103,952	Arnoid Engineering and Development Center Continue test infrastructure overhead support to enable testing for classified programs, and unclassified programs (F-22, JDAM, F-	classified programs (F-22, JDAM, F-
- (U) \$2,008	15, F-16, Minuteman, and F-18). Hurricane Opal loan to AFDTC pending FY96 Omnibus.	
– (U) \$1,816	Bosnia II OSD withhold. Aircraft Modification Directorate	
– (U) \$2,000	Fund indirect labor and supporting expenses (training, travel, office supplies, etc.) and support services required for the Developmental Manufacturing and Modification Facility (DMMF) mission in support of RBA programs in excess of \$25,900. Air Force Flight Test Center	services required for the programs in excess of \$25,900.
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RDT	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SHEET (R-2 Exhibit)	DATE March 1996
6 - Management Support		0605807F Test And Evaluation Spt	
PROJECT NO. AND NAME 06TS Test and Evaluation Support (1)	ion Support (1)		
- (U) \$103,031	Continue to provide test infrastructure overhead support enabling testing of the B-1B, B-2, F-16, F-15, F-15E, F-22, AFTI/F-16, C-17, ATIC, ARIA, SMILS, ECCM, EW (JSTARS, F-15 TEWS, etc.) and classified programs.	ort enabling testing of the B-1B, B-2, F-16, F-15, F-1 15 TEWS, etc.) and classified programs.	5E, F-22, AFTI/F-16, C-
- (U) \$18,000	USAF Test Pilot School operating costs.		
- (U) \$3,153 - (U) \$2,070	Hurricane Opai toan to ArDio pending r 130 Ominous. Bosnia II OSD withhold.	ous.	
- (U) \$50,971	Air Force Development Test Center Continued test infrastructure overhead support for no	Air Force Development Test Center Continued test infrastructure overhead support for non-nuclear air armaments (AMRAAM, WCMD, JASSM, AGM 130, IDL,	M, AGM 130, IDL, BISS AFMSS) and
	OFF, SEEK EAGLE, 1MD, JDAM, JOOW, etc.), EW (JS1AKS, F15-1EWS, etc.), C+1 (J1MS, AWACS, D1SS, ALMSS), and refurbishment of the Climatic Test Facility.	(JOIAKS, FIS-1EWS, GLS), C+1 (JILDS, AWACS)	אווא (אנוטט), מווע
- (U) \$13,560	Cash flow Hurricane Opal repair pending FY96 Omnibus Funding.	ibus Funding. 796 Omnibus Bunding	
- (U) \$5,668 - (U) \$9,400	Financial Reporting Support: Provide funding from 1	Financial Reporting Support: Provide funding from Defense Business Operating Fund (DBOF) for T&E financial reporting.	nancial reporting.
	Bosnia II OSD withhold.		
- (U) \$316,725	Total		
(U) FY 1997 (\$ in Th	(U) FY 1997 (\$ in Thousands) Planned Program:		
- (U) \$110,461	Arnold Engineering and Development Center Continue test infrastructure overhead support to enab	Arnold Engineering and Development Center Continue test infrastructure overhead support to enable testing for classified programs, and unclassified programs (F-22, JDAM, F-15, F-16,	ograms (F-22, JDAM, F-15, F-16,
	Minuteman, and F-18). Aircraft Modification Directorate		
– (U) \$2,000	Fund indirect labor and supporting expenses (training, travel, office sup- modification mission in support of RBA programs in excess of \$25,900	Fund indirect labor and supporting expenses (training, travel, office supplies, etc.) and support services required for the aircraft	quired for the aircraft
	Air Force Flight Test Center		
- (U) \$100,957	Continue to provide test infrastructure overhead support enabling testing of the B	Continue to provide test infrastructure overhead support enabling testing of the B-1B, B-2, F-16, F-15, F-15E, F-22, AFTI/F-16, C-17,	5E, F-22, AFTI/F-16, C-17,
- (U) \$18,600	USAF Test Pilot School operating costs.	ic.), and cassimod problams.	
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RDT	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	IFICATION	N SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 6 - Management Support	pport		PE NUMBER AND TITLE 0605807F Test	PE NUMBER AND TITLE O605807F Test And Evaluation Spt	aluation Spt	
PROJECT NO. AND NAME 06TS Test and Evaluation Support (1)	ion Support (1)					
- (U) \$71,183 - (U) \$10,900 - (U) \$314,101	Air Force Development Test Center Continued test infrastructure overhead support for non-nuclear air armaments (AMRAAM, SEEK EAGLE, TMD, JDAM, JSOW, WCMD, etc.); electronic warfare (JSTARS, F15-TEWS, F-16 ALR 56M, etc); C4I (JTIDS, BISS, TMD), and aircraft software upgrades. Financial Reporting Support: Provide funding from Defense Business Operating Fund (DBOF) for T&E financial reporting. Total	r d support for n 15-TEWS, F-16 e funding from	on-nuclear air ar ALR 56M, etc) Defense Busine	maments (AMRA C4I (JTIDS, BIS ss Operating Fund	AM, SEEK EAGLE S, TMD), and aircr (DBOF) for T&E f	ter cad support for non-nuclear air armaments (AMRAAM, SEEK EAGLE, TMD, JDAM, JSOW, WCMD, F15-TEWS, F-16 ALR 56M, etc); C4I (JTIDS, BISS, TMD), and aircraft software upgrades. vide funding from Defense Business Operating Fund (DBOF) for T&E financial reporting.
(U) B. Program Change	(U) B. Program Change Summary (\$ in Thousands):				E-	
(U) Previous President's Budget (U) Appropriated Value	ıdget	FY 1995 377,227	FY 1996 330,727 324,927	FY 1997 334,054	Cont	
a. ADP Savings Sec 8101 b. Economic Assum Sec 8125 c. Ovrhead/Imprvd Mgmt Sec 8129	niated value 101 ec 8125 gmt Sec 8129		-65 -1,956 -4,341			
d. Bosnia Reprogramming 1e. Adjustment to FY 97 budget year(U) Current Budget Submit/President's Budget	ning 1 7 budget year /President's Budget	377,227	-1,840 316,725	-19,953 314,101	Cont	
(U) Change Summary Explanation Funding: FY 97 reduct	Explanation:. FY 97 reductions due to civilian workforce reduction (- \$2,838) and inflation and cost savings adjustments (-\$17,115)	reduction (- \$2,	,838) and inflatic	on and cost saving	s adjustments (-\$17	,115)
Schedule: None.	6					

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Technical: None.





RDT&E BUDGET ITEM JUSTIFICATION	STIFICATION SHEET (R-2 Exhibit)	DATE March 1996	
BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0605807F Test And Evaluation Spt		
PROJECT NO. AND NAME 06TS Test and Evaluation Support (1)			
(U) C. Other Program Funding Summary (\$ in Thousands): Not applicable. Related RDT&E: (U) PE 0605856F, Environmental Compliance (U) PE 0605896F, Base Operations RDT&E (Base operating support) (U) PE 0604759F, Major T&E Investment (Technical capability improvement and modernization) (U) PE 0604256F, Threat Simulator Development (U) PE 0604940D, Central Test & Evaluation Improvement Program (T&E investments for new tri-service test capabilities)	e. and modernization) vestments for new tri-service test capabilities)		
(U) D. Schedule Profile: Not applicable.			

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RDT&E BUDGET ITEM JUSTIFICATION	STIFICATION SHEET (R-2 Exhibit)	DATE March 1996	966
BUDGET ACTIVITY	PE NUMBER AND TITLE		
6 - Management Support	0605807F Test And Evaluation Spt		
BBO IECT NO AND NAME			

06AS Aircraft Support (1)

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
06AS Aircraft Support (1)	34,476	12,294	12,161	13,137	13,850	15,054	16,292	Continuing	TBD

(1) Aircraft Support, project 6606AS, was transferred from PE 0605863F (combining projects 662111 and 662112), effective FY 96

(AFMC) assigned test and test support coded aircraft which are included as a portion of the Department of Defense Major Range and Test Facility Base (MRTFB). This scheduling of aircraft into depots for update/inspection; modifications and any other depot level repairs required by the aircraft System Program Directors (SPD); engine (U) A. Mission Description and Budget Item Justification: The RDT&E aircraft support program provides resources for maintaining Air Force Materiel Command modified/instrumented one-of-a-kind aircraft. Funds pay for depot level maintenance such as: Programmed Depot Maintenance (PDM), the calendar-based cyclic program supports 128 RDT&E aircraft of 18 different types. These include a multitude of configurations, with many prototype, preproduction, and extensively overhauls and engine modules; depot-provided area assistance; and assorted ground support equipment overhauls that require reimbursement.

(U) FY 1995 (\$ in Thousands) Program

Performed PDM and engine overhauls. - (U) \$34,476

- (U) \$34,476

(U) FY 1996 (\$ in Thousands) Planned Program

Perform PDM and engine overhauls. - (U) \$12,294

- (U) \$12,294

(U) FY 1997 (\$ in Thousands) Planned Program

Perform PDM and engine overhauls. - (U) \$12,161

- (U) \$12,161

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ION SHEET (F	R-2 Exhibit)		DATE March 1996
вирает Астіміту 6 - Management Support	PE NUMBER AND TITLE 0605807F Test	PENUMBER AND TITLE 0605807F Test And Evaluation Spt	lation Spt	
PROJECT NO. AND NAME 06AS Aircraft Support (1)				
(U) B. Program Change Summary (\$ in Thousands):			Total	
(U) Previous President's Budget 34,476	FY 1996 12,539	FY 1997 12,229	Cont	
(U) Appropriated Value (U) Adjustments to Appropriated Value	12,539			
a. FY95 Actualsb. ADP Savings Sec 8101	-2			
c. Economic Assum Sec 8125 d. Ovrhead/Imprvd Mgmt Sec 8129	-/3	(
e. Adjustments to FY 97 budget year (U) Current Budget Submit/President's Budget 34,476	5 12,294	- 68 12,161	Cont	
(U) Change Summary Explanation: Funding: No significant changes.				
Schedule: None.				
Technical: None.				
(U) C. Other Program Funding Summary (\$ in Thousands): Not applicable.	able.			

Related RDT&E:

- (U) PE 0605856F, Environmental Compliance
 (U) PE 0605896F, Base Operations RDT&E (Base operating support)
 (U) PE 0604759F, Major T&E Investment (Technical capability improvement and modernization)
 (U) PE 0604256F, Threat Simulator Development
 (U) PE 0604940D, Central Test & Evaluation Improvement Program (T&E investments for new tri-service test capabilities)
- (U) D. Schedule Profile: Not applicable.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION SI	HEET (F	R-2 Exhi	bit)		DATE	March 1996	9
BUDGET ACTIVITY		PEN	PE NUMBER AND TITLE	TITLE					
6 - Management Support		90	J5807F 1	0605807F Test And Evaluation Spt	Evaluation	on Spt			
PROJECT NO. AND NAME 06MC Minor Construction (1)						•			
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost

(1) Minor Construction, project 6606MC, was transferred from PE 0605876F, effective FY 96. Funding in FY 95 refers to PE 0605876F.

TBD

4,329 Continuing

4,204

4,084

3,893

3,717

3,588

3,531

06MC Minor Construction (1)

(U) A. Mission Description and Budget Item Justification: This program element provides essential minor construction at three DoD Major Range and Test Facility Base locations: Eglin AFB FL, Edwards AFB CA, and Arnold AFB TN. Physical plant maintained by this account covers 800,000 acres of land; over four thousand structures in excess of 30 years old encompassing fifteen million square feet; over five million square yards of airfield pavement; 1900 miles of road network; utility systems that include 120 wells, 10 sewage treatment plants, 20 substations and over 1600 miles of high voltage electrical distribution lines.

(U) FY 1995 (\$ in Thousands) Program:

- (U) \$3,531

(U) FY 1996 (\$ in Thousands) Planned Program:

3,588 Finance in-house work performed by government employees (to include supplies, materials and equipment). Finance construction of	airman leadership school and classroom (2nd building), explosive ordnance disposal facility and performance of the most critical minor	construction at the three MRTFBs
(U) \$3,588		

Total - (U) \$3,588

(U) FY 1997 (\$ in Thousands) Planned Program:

· (U) \$3,717	Finance in-house work performed by government employees (to include supplies, materials and equipment). Finance construction of
	Human Resource Development Computer Laboratory, replace plenum escape system transformer and add 16KV circuit breaker to nlenum
	escape system substation; and finance addition to equipment research laboratory and provide additional well reservoir
(U) \$3,717	Total

- (n) \$5,/I/

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (F	R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0605807F Test	PENUMBER AND TITLE OG05807F Test And Evaluation Spt	uation Spt	
PROJECT NO. AND NAME 06MC Minor Construction (1)				
(U) B. Program Change Summary (\$ in Thousands):			Total	
FY 1995 (U) Previous President's Budget 3,531	FY 1996 3,660	FY 1997 3,738	Cont	
(U) Appropriated Value (U) Adjustments to Appropriated Value	3,660			
c. Economic Assum Sec 8125	-22 -49			
e. Adjustment to FY 97 Budget Year (U) Current Budget Submit/President's Budget	3,588	-21 3,717	Cont	
(U) Change Summary Explanation: Funding: None.				
Schedule: None.				
Technical: None.				
(U) C. Other Program Funding Summary (\$ in Thousands): Not applicable.	ં			

Related RDT&E:

- (U) PE 0605856F, Environmental Compliance
 (U) PE 0605896F, Base Operations RDT&E (Base operating support)
 (U) PE 0604256F, Threat Simulator Development
 (U) PE 0604759F, Major T&E Investment (Technical capability improvement and modernization)
- (U) D. Schedule Profile: Not applicable.

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March 1996 DATE 0605807F Test And Evaluation Spt RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 06MR Maintenance and Repair (1) 6 - Management Support PROJECT NO. AND NAME BUDGET ACTIVITY

TBD Total Cost Continuing Cost to Complete 76,892 FY 2001 Estimate 77,537 FY 2000 Estimate 77,524 FY 1999 Estimate 75,898 FY 1998 Estimate 74,122 FY 1997 Estimate 69,565 FY 1996 Estimate 54,245 FY 1995 Actual COST (\$ In Thousands) 06MR Maintenance and Repair (1)

(1) Maintenance and Repair, project 6606MR, was transferred from PE 0605878F, effective FY 96. Funding in FY 95 refers to PE 0605878F.

impact on mission accomplishment. Facilities are assessed as either Level 1 (Unsatisfactory - minimal mission support) or Level 2 (Degraded - impaired mission support). (U) A. Mission Description and Budget Item Justification: This project provides essential Real Property Maintenance and Repair at three DoD Major Range and Test Facility Base (MRTFB) locations: Eglin AFB FL, Edwards AFB CA, and Arnold AFB TN. Physical plant maintained by this account covers 800,000 acres of land; over network; utility systems that include 120 wells, 10 sewage treatment plants, 20 substations and over 1600 miles of high voltage electrical distribution lines. Beginning in Assessment (CFA). CFA puts a "readiness face" on real property maintenance requirements by having commanders at all levels assess their facility's condition and its The field commanders have unanimously endorsed CFA as the best way to determine and address mission impacts due to facility deficiencies. The program increases FY 96, the increases represent an Air Force corporate decision to implement a new initiative to measure and improve facility conditions: the Commander's Facility four thousand structures in excess of 30 years old encompassing fifteen million square feet; over five million square yards of airfield pavement; 1900 miles of road represent a concerted effort to fund the majority of the Level 1 requirements with a particular emphasis on operational facilities and base infrastructure.

(U) FY 1995 (\$ in Thousands) Program:

Financed in house work force. - (U) \$33,883 Financed repairs to airfield asphalt and runway, overhead lines, electrical substation and various sewer lines. - (U) \$8,600

ventilation and air conditioning), asbestos abatement]; conducted seismic studies in various buildings; and repaired Hurricane Erin damage Performed various M&R activities [overlay roads, repair aftercooler bundles, transformers, rotor discs, hangar doors, HVAC (heating, - (U) \$11,762

at Eglin AFB.

- (U) \$54,245

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICATION	N SHEET (I	R-2 Exhibit)		DATE March 1996
вирсет АстіvітY 6 - Management Support		PE NUMBER AND TITLE 0605807F Test	PENUMBER AND TITLE OG05807F Test And Evaluation Spt	uation Spt	
PROJECT NO. AND NAME 06MR Maintenance and Repair (1)					
 (U) FY 1996 (\$\frac{\pmaths}{\pmaths}\$ in Thousands) Planned Program: (U) \$35,755 Finance in house work force. (U) \$12,889 Repair heat exchangers in engine test facility, 26,500 hp rotor and starter, process air valve, liquid rheostats and water manifolds, and installation of EMC and SCADA systems. (U) \$10,834 (D) \$10,834 (D) \$10,087 (Emmander's Facility Assessment (CFA) identified requirements necessary to repair "unsatisfactory" conditions. (D) \$69,565 	ne test facility, 26,500 A systems. Innes, dorms, circuit tent (CFA) identified	0 hp rotor and st breakers, asbeste requirements ne	arter, process air va os abatement, seisn cessary to repair "u	lve, liquid rheosta iic studies, and vai nsatisfactory" con	ts and water manifolds, and cious roofs. ditions.
 (U) £Y 1997 (\$\$\$ in Thousands) Planned Program: (U) \$38,445 Finance in-house work force. (U) \$13,225 Repair refrigerant insulation, rotor discs, gaseous helium refrigerators, heaters in air processing system and water control valves. (U) \$12,350 Repair various roads, underground cable, HVAC (heating, ventilation and air conditioning), airfield pavement, electrical distribuand asbestos abatement, seismic studies, and re-roof buildings. (U) \$10,102 (CFA exercise identified requirements necessary to repair "unsatisfactory" conditions. 	otor discs, gaseous he und cable, HVAC (he c studies, and re-roof	slium refrigerator eating, ventilatio buildings. epair "unsatisfac	s, heaters in air pr n and air condition cory" conditions.	ocessing system ar ing), airfield pave	Finance in-house work force. Finance in-house work force. Repair refrigerant insulation, rotor discs, gaseous helium refrigerators, heaters in air processing system and water control valves. Repair various roads, underground cable, HVAC (heating, ventilation and air conditioning), airfield pavement, electrical distribution lines, and asbestos abatement, seismic studies, and re-roof buildings. CFA exercise identified requirements necessary to repair "unsatisfactory" conditions.
	<u>FY 1995</u> 54,245	<u>FY 1996</u> 84,354 70,954	$\frac{\text{FY } 1997}{86,135}$	Total <u>Cost</u> Cont	
 (U) Adjustments to Appropriated Value a. ADP Savings Sec 8101 b. Economic Assum Sec 8125 c. Ovrhead/Imprvd Mgmt Sec 8129 d. Adjustments to FY 97 budget year (U) Current Budget Submit/President's Budget 	54,245	-14 -427 -948 69,565	-12,013 74,122	Cont	
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March 1996 DATE 0605807F Test And Evaluation Spt RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 06MR Maintenance and Repair (1) (U) Change Summary Explanation: 6 - Management Support PROJECT NO. AND NAME BUDGET ACTIVITY

Funding: The program increases beginning in FY 96 represent a concerted effort to fund the majority of the Level 1 requirements with a particular emphasis on operational facilities and base infrastructure.

Schedule: None.

Technical: None.

(U) C. Other Program Funding Summary (\$ in Thousands): Not applicable. Related RDT&E;

(U) PE 0605856F, Environmental Compliance

(U) PE 0604759F, Base Operations RDT&E (Base operating support)
(U) PE 0604759F, Major T&E Investment (Technical capability improvement and modernization)
(U) PE 0604256F, Threat Simulator Development
(U) PE 0604940D, Central Test & Evaluation Improvement Program (T&E investments for new tri-service test capabilities)

(U) D. Schedule Profile: Not applicable.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	USTIFICA	TION SE	HEET (R	-2 Exhik	oit)		DATE	March 1996	9
BUDGET ACTIVITY 6 - Management Support		PE NL 060	PE NUMBER AND TITLE 0605807F Test And Evaluation Spt	ा⊤∟E est And I	=valuatic	n Spt			
PROJECT NO. AND NAME 06TG 46 Test Group (1)									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
06TG 46 Test Group (1)	29,554	21,655	21,094	21,555	722,227	22,427	22,390	Continuing	TBD
(1) 46 Test Group, project, 6606TG, was transferred from PE 0605708F, effective FY 96. FY 95 totals include both the test infrastructure and test investment portion of PE 0605708F. Beginning in FY 96, the funding in this project is only for test infrastructure. The investment portion transfers to PE 0604256F.	PE 0605708F, effective FY 96. FY 95 totals include both the test infrastructure and test is project is only for test infrastructure. The investment portion transfers to PE 0604256F.	ffective FY 9 for test infra	96. FY 95 to structure. Tl	tals include he investmer	both the test it portion tra	infrastructu	re and test i 3 0604256F.	nvestment p	ortion of
(U) A. <u>Mission Description and Budget Item Justification</u> : Beginning in FY 96, this project funds only test infrastructure overhead support including: command and supervisory staffs; supply stocks; upkeep, refurbishment, repair, and replacement of non-repairable or obsolete test equipment; test infrastructure for data collection, transmission, reduction, and analysis, civilian salaries, utilities, temporary duty travel, support contract costs for hardware and software engineering and maintenance. Project infrastructure support is provided for the unique capabilities of the 46th Test Group facilities: the High Speed Test Track (HSTT), Central Inertial Guidance Test Facility (CIGTF), and the Radar Target Scatter (RATSCAT) facility. In FY 95 part of the funding was for investment programs: Radar Target Scatter (RATSCAT), Aircraft Navigation System Verification, and the Hypersonic Sled Track Development programs. The RATSCAT program transferred to PE 0604256F in FY 96. There is no Air Force funding in FY 96 and beyond for either the Aircraft Navigation System Verification or the Hypersonic Sled Track Development programs.	m: Beginning in FY 96, this project funds only test infrastructure overhead support including: commany and replacement of non-repairable or obsolete test equipment; test infrastructure for data collection, ties, temporary duty travel, support contract costs for hardware and software engineering and maintenany abilities of the 46th Test Group facilities: the High Speed Test Track (HSTT), Central Inertial Guidance) facility. In FY 95 part of the funding was for investment programs: Radar Target Scatter (RATSCAT c Sled Track Development programs. The RATSCAT program transferred to PE 0604256F in FY 96. Adircraft Navigation System Verification or the Hypersonic Sled Track Development programs.	in FY 96, thi ement of non duty travel, s foth Test Gr 7 95 part of t evelopment p	Beginning in FY 96, this project funds only test infrastructure overhead support including: command and and replacement of non-repairable or obsolete test equipment; test infrastructure for data collection, temporary duty travel, support contract costs for hardware and software engineering and maintenance. ities of the 46th Test Group facilities: the High Speed Test Track (HSTT), Central Inertial Guidance Test cility. In FY 95 part of the funding was for investment programs: Radar Target Scatter (RATSCAT), ed Track Development programs. The RATSCAT program transferred to PE 0604256F in FY 96. There araft Navigation System Verification or the Hypersonic Sled Track Development programs.	ds only test in the description of the description of the description of the High S was for investigation of the Hyper or	infrastructur st equipmen hardware ar peed Test T tment progr T program (e overhead and software of the	support inclutructure for engineering), Central In Target Scat o PE 060425 opment prog	nding: commdata collecticand and mainten nertial Guida ter (RATSC, 66F in FY 96 rams.	and and m, ance. nce Test AT), . There
 (U) <u>FY 1995 (\$ in Thousands) Program</u>: (U) \$22,554 Provided infrastructure test support for programs such as AIMS, Minuteman III, IRCM, TMD, THAAD, PAC-3, Arrow, GBI, standard missile II, GPS jamming and spoofing, FAA GPS Precision Approach field tests, GPS integrated and imbedded INS programs, aircraft navigation systems, including B-2, F-117A antenna testing, and static RCS testing for both classified and unclassified programs including the F-117A; completed development of an automated trajectory system to reduce the cost of egress, flare and IRCM testing at the sled track deferred from FY 92. 	pport for progre spoofing, FAA (B-2, F-117A ar pment of an aut	ims such as d GPS Precisio ntenna testin, iomated traje	AIMS, Minu on Approach g, and static ectory system	field tests, C RCS testing to reduce th	CCM, TIMD, JPS integrat for both cla te cost of ego	THAAD, P ed and imbe ssified and ı ress, flare an	AC-3, Arrov dded INS pr mclassified j id IRCM test	 κ, GBI, stance ograms, airce programs ince ting at the slance 	lard raft luding ed track
Linvestments. — (U) \$7,000 Continued test support operations for Aircraft Navigation System Verification; continued RATSCAT upgrades. — (U) \$29,554 Total	ions for Aircraft	Navigation	System Veri	fication; con	tinued RAT	SCAT upgra	ades.		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICATION	N SHEET (R-2 Exhibit		DATE March 1996
BUDGET ACTIVITY 6 - Management Support		PE NUMBER AND TITLE 0605807F Test	PE NUMBER AND TITLE 0605807F Test And Evaluation Spt	luation Spt	
PROJECT NO. AND NAME 06TG 46 Test Group (1)					
Tho	tt for programs suching and spoofing, Fiding B-2, missile a	as AIMS, IRCN AA Wide Area and munitions na le testbeds; initia	f, Peacekeeper, TF rugmentation Syst rigation systems for the acquisition of s	IAAD, F-111, Spa em, GPS integrate r Trident and JDA pecial avionics to s	for programs such as AIMS, IRCM, Peacekeeper, THAAD, F-111, Sparrow, Corps SAM, Standard ing and spoofing, FAA Wide Area Augmentation System, GPS integrated and imbedded INS programs, ing B-2, missile and munitions navigation systems for Trident and JDAM, F-22, and static RCS testing and low observable testbeds; initiate acquisition of special avionics to support GPS integration and
 (U) \$291 OSD Withhold for revised economic assumptions. (U) \$21,655 Total 	mic assumptions.				
 (U) FY 1997 (\$ in Thousands) Planned Program: (U) \$21,094 Provide infrastructure test support for programs such as F-22A escape system, 4th Generation Ejection Seat, Standard Missile 2, PAC-3 (U) \$21,094 Provide infrastructure test support for programs such as F-22A escape system, 4th Generation Ejection Seat, Standard Missile 2, PAC-3 LFT&E, JPATS Escape System, THAAD LFT&E, Directed Infrared Countermeasures (DIRCM), SOF DIRCM and AN/AAR44 System improvements, continued GPS-JPO RTO responsibilities, Project 2000 integration support, GPS jamming and spoofing, FAA Wide Area Augmentation System, GPS integrated and embedded INS programs, aircraft navigation systems for Trident and JDAM, and static RCS testing for stores, low observable testbeds, and other classified programs. (U) \$21,094 	tt for programs sucl THAAD LFT&E, I PO RTO responsibil grated and embedde Trident and JDAM	n as F-22A escap Directed Infrared lities, Project 200 ed INS programs, 1, and static RCS	e system, 4th Gene Countermeasures of integration supp aircraft navigation testing for stores,	ration Ejection Ser (DIRCM), SOF DI ort, GPS jamming n systems, includin low observable tes	at, Standard Missile 2, PAC-3 RCM and AN/AAR44 System s and spoofing, FAA Wide Area ig B-2 and F-22, missile and tbeds, and other classified
(U) B. Program Change Summary (S in Thousands):				Total	
(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Value	FY 1995 29,554	FY 1996 22,787 22,087	<u>FY 1997</u> 22,179	Cost Cont	
		-4 -133 -295	-1.085		
(U) Current Budget Submit/President's Budget	29,554	21,655	21,094	Cont	
	Page	Page 17 of 18 Pages			Exhibit R-2





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 6 - Management Support 7 - Management Support Support Support Spt	
PROJECT NO. AND NAME 06TG 46 Test Group (1)	
(U) Change Summary Explanation: Funding: Adjustments to FY 97 funding include civilian pay reprice and non-pay inflation adjustment.	
Schedule: None.	
Technical: None.	
(U) C. Other Program Funding Summary (\$ in Thousands): Not applicable.	
(U) D. Schedule Profile: Not applicable.	
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RDT&E BUDGET ITEM JUSTIFICATION	STIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
6 - Management Support	0605808F Development Planning	
PROJECT NO. AND NAME	•	

3361 Mission & System Planning

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3361 Mission & System Planning	5,911	6,495	6,531	6,673	6,832	7,010	7,176	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

deficiencies, to identify technology needs and exploit technology opportunities, and when necessary to define the requirements for materiel solutions. First, a Mission This Program Element is the only dedicated source of funds for Air Force Mission and Functional Area Teams (MATs & FATs) to perform the studies and analyses funding. The highest priority proposals are listed in this descriptive summary and a detailed description is provided to the Congressional Appropriations committees materiel alternatives include doctrine, tactics, training, and organizational changes. Materiel alternatives include modifications to existing systems; procurement of existing DoD, Allied and non-developmental systems; or the development of new systems. Operational requirements analyses and supporting acquisition milestone are not normally conducted in this program element. The major commands and Air Staff functional agencies annually propose studies for the upcoming fiscal year. documentation include MAAs, MNAs, and Mission Need Statements (MNS). Phase 0 concepts studies and Cost and Operational Effectiveness Analyses (COEAs) regulations and JCS MOP 77 which mandate that a full range of requirements analyses be continuously conducted to identify and substantiate current operational conducted to identify potential cost effective, non-materiel and materiel alternatives that address the deficiency, or present new technological opportunities. Nonoperational roles, missions, and supporting tasks that cannot be performed efficiently or in a cost effective manner. Second, a Mission Needs Analysis (MNA) is An Air Force board prioritizes the proposals using a rigorous Analytical Hierarchy Process. Proposals may be modified or delayed to accommodate programmed Support because the results of the studies and analyses performed have a substantial impact on future Air Force warfighting capability as an input to technology, for approval to receive funding. This process eliminates duplication of effort within the Air Force or DoD. This program is in budget activity 6 - Management Area Assessment (MAA) is conducted to identify tasks and substantiate operational deficiencies. These deficiencies must relate directly to assigned Air Force that support the Modernization Planning Process. The Air Force, through the Modernization Planning Process, is in compliance with the DoD 5000 series acquisition (prior to Milestone 0), and procurement investment decisions.

(U) FY 1995 (\$ in Thousands):

,	. 7	
i	(U) \$992	Continued development of Integrated Definition for Functional (IDEF) Modeling analysis of merged Air Mobility command and control
		processes - identified mission area deficiencies and alternative solutions

Completed MNA to identify options for hostile target identification. Selected options to transition into existing programs. (U) \$789

Completed MNA for systems for destruction of non-emitting surface-to-air targets and investigation of alternatives for incorporation into (U) \$395

existing aircraft and munitions programs
(U) \$948 Completed MNA efforts for theater missile defense concepts.

Completed Mission Area Assessment/Mission Needs Analysis (MAA/MNA) of C41 architectures for Theater Battle Management. (U) \$158

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RE	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)
BUDGET ACTIVITY 6 - Management Support	Support Planning 0605808F Development Planning
PROJECT NO. AND NAME 3361 Mission & System Planning	tem Planning
- (U) \$789	Continued surveillance and reconnaissance MNA to identify architecture alternatives to support the battlefield commander.
	Initiated Integrated Definition for Functional (IDEF) MAA of infelligence systems.
	Initiated IDEF MAA of combat weather requirements for worldwide Air Force and Army missions.
	Initiated Future Space Architectures (FSA) studies to support development of All Force Space Command Mission Arca Francisco (FSA) studies MA As to include student throughout technological advances, and force structure changes
(U) \$213	Initiated too tening in equeation and training in the study study, the control of
	Total
(U) FY 1996 (\$ in Thousands):	Thousands):
	Initiate MAP analysis support to Counterair, Strategic Attack/Interdiction, Theater Missile Defense, and Close Air Support MAPs.
896\$ (n) -	Continue surveillance and reconnaissance mission area study to identify architecture alternatives to support the battlefield commander.
- (U) \$664	Initiate Standard Data Base Architecture study to identify and recommend a solution to C41 architecture and database deficiencies stated in the
	Air Force Special Operations Command MAPs, the Air Force Intelligence Functional Area Flan (FAF), the Air Force C4 FAF, and the Air Force Special Operations and Reconnaissance MAP
- (U) \$385	Continue Air Education and Training Command mission areas throughput and resource allocation model development.
- (U) \$722	Continue Future Space Architectures (FSA) studies to support development of Air Force Space Command MAPs.
- (U) \$462	Initiate effort to adapt existing air mobility modeling and simulation tools to distributed interactive simulation (DIS) standards to support air
	mobility MAAs.
- (U) \$395	Initiate a study to determine modeling and simulation (M&S) requirements for Special Operations Forces missions and produce a list of existing M&S tools that can be used as is or modified, or recommend other alternatives as required.
- (U) \$1.078	Complete MAA/MNA of Air Mobility Command's missions to identify requirements for a single, integrated command and control system.
(U) \$241	Initiate studies on health and safety issues of non-lethal weapons to support Air Force Surgeon General functional area analysis and
	assessment.
- (U) \$626	Continue IDEF MAA/MNA of combat weather support requirements for worldwide Air Force and Army missions.
- (U) \$222	Initiate study to support MNA for the Special Operations Forces Provide Mobility in Demed Territory mission area.
- (U) \$6,495	Total
(T) FV 1997 (\$ in Thousands):	Thousand's):
	Initiate studies of SOF aircraft mission vulnerabilities and potential countermeasures.
(U) \$1,600	Continue/initiate efforts in support of Air Combat Command mission areas.
- (U) \$680	Continue throughput and resource allocation studies in support of Air Education and Training Command mission areas.
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	M JUSTIFICATIO	N SHEET (R-2 Exhib	oit)	DATE March 1996	
BUDGET ACTIVITY 6 - Management Support		PE NUMBER AND TITLE 0605808F Deve	Developm	PE NUMBER AND TITLE OCCUPANT Planning		1
PROJECT NO. AND NAME 3361 Mission & System Planning						Т
 (U) \$730 Complete Future Space Architectures (FSA) studies to support development of Air Force Space Command MAPs. (U) \$466 Continue effort to adapt existing air mobility modeling and simulation tools to DIS standards to support air mobility. (U) \$875 Initiate efforts in support of Air Mobility MNAs and requirements definition. (U) \$580 (D) \$580 (D) \$6,531 (D) \$6,531 	utectures (FSA) studies to support deverting air mobility modeling and simulat Air Mobility MNAs and requirements of the Air Force Medical Functional Area of combat weather support requiremen	support developr g and simulation t equirements defin nctional Area. rt requirements fo	nent of Air Forools to DIS statition. r worldwide Ai	is (FSA) studies to support development of Air Force Space Command MAPs. mobility modeling and simulation tools to DIS standards to support air mobility MAAs, wility MNAs and requirements definition. Force Medical Functional Area. Force Medical Functional Area. Force weather support requirements for worldwide Air Force and Army missions.	APs. nobility MAAs. sions.	T
(U) B. Program Change Summary (\$\sec{8}\$ in Thousands)	[1					
(U) Previous President's Budget(U) Appropriated Value(II) Adjustments to Appropriated Value	FY 1995 5,870 7,500	FY 1996 6,745 6,745	FY 1997 6,764	Total Cost Continuing		
a. Cong Gen Reductions	-1,589	-198				
c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming	и	-52				
(U) Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/President's Budget	5,911	6,495	-233 6,531	Continuing		
(U) Change Summary Explanation:	ort higher priority offorts	and for received on	uminos vienous	·*		

Funding: Funding is reduced in FY97 to support higher priority efforts and for revised economic assumptions. Schedule: Not Applicable Technical: Not Applicable

(U) C. Other Program Funding Summary (\$\sets\$ in Thousands)

Not Applicable

(U) **D.** <u>Schedule Profile</u>
Not Applicable

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RDT&E BUDGET ITEM JUSTIFICATION	STIFICATION SHEET (R-2 Exhibit) DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE
6 - Management Support	0605853F Environmental Conservation
PROJECT NO. AND NAME	
5853 Environmental Conservation	

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
5853 Environmental Conservation	0	4,055	10,870	11,195	11,203	11,057	10,975	Continuing	ТВD

* FY96-01 funding was transferred to this account from the environmental compliance program element (65856F).

(U) A. Mission Description and Budget Item Justification

FL; Edwards AFB, CA; and Arnold AFB, TN. The account pays for operations and services (O&S or recurring work to keep the gates open), Level I (work to correct projects include: surveying, monitoring and protection of endangered species; environmental assessments and impact analysis; surveying, monitoring and protection current non-compliance with federal, state or local environmental laws) and Level II (work to correct known future non-compliance) projects. Typical services and This program element provides environmental conservation services at three Air Force Material Command Major Range and Test Facility Bases: Eglin AFB, of wetlands and floodplains; cultural resources evaluations; and archeological surveys.

(U) FY 1995 Not Applicable

(U) FY 1996

- Fund "must pay" O&S requirements such as civilian pay, education and training, updates to integrated natural resources management plans, and environmental impact analysis (EIAP) activities. The EIAP process allows the Air Force to determine the magnitude and significance of the anticipated environment impact of proposed actions. (U) \$4,055
 - (U) \$4,055 Total

(U) FY 1997

Fund "must pay" O&S requirements such as civilian pay, education and training, updates to integrated natural resources management plans, and environmental impact analysis (EIAP) activities. The EIAP process allows the Air Force to determine the magnitude and significance of the anticipated environment impact of proposed actions. (U) \$7,630

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RDT&E BUDGET ITEM JUSTIFI	TIFICATION SHEET (R-2 Exhibit)	R-2 Exhibit)		DATE	March 1996
BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0605853F Envil	PE NUMBER AND TITLE 0605853F Environmental Conservation	Conservatio	ءِ	
PROJECT NO. AND NAME 5853 Environmental Conservation					
 (U) \$3,240 Fund surveys and protection of endangered species (flora and fauna), wetlands, historic and archeological sites required by federal and state laws. The states of California and Florida have laws requiring extensive surveys of facilities. Surveys generate plans and programs to preserve natural and cultural resources in compliance with state and federal requirements. (U) \$10,870 Total 	ered species (flora and fauna), wequiring extensive surveys of facil. requirements.	etlands, historic and ar ities. Surveys generate	cheological sites	required t	by federal and state eserve natural and
(U) Acquisition Strategy: Not Applicable					
(U) B. Program Change Summary (\$\frac{8}{2}\$ in Thousands)			E		
 (U) FY96 President's Budget (U) Congressional Programmatic Reduction (U) Appropriated Value (U) Adjustments to Appropriated Value a. Congressional General Reductions b. SBIR 	FY 1995 0 14,169 -10,000 4,169 0 -82	$\frac{\text{FY } 1997}{11,200}$	l otal Cost TBD		

(U) Change Summary Explanation:

installations. The Air Force is exploring various avenues to reprogram funds into this account for FY96. FY97 funding is less than FY96's PB request because of prior to this DoD-directed transfer. Congressional programmatic reductions of \$10M are preventing the three RDT&E installations from performing activities to Funding: The funds for this program were transferred from the environmental compliance program (0605956F) in FY95. The program element did not exist comply with Federal, state, and local environmental laws. These activities are necessary to permit the Air Force to conduct weapon system testing at these fewer required Level 1 projects.

TBD

10,870

4,055

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c. Omnibus or Other Above Threshold Reprogram*
 d. Adjustments to Budget Years since FY96 PB

(U) Current Budget Submit/President's Budget

Schedule: Not Applicable

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RDT&E BUDGET ITEM JUSTIFI	TIFICATION SHEET (R-2 Exhibit)	DATE March 1996
вирдет АСТІVITY 6 - Management Support	PE NUMBER AND TITLE 0605853F Environmental Conservation	ıtion
PROJECT NO. AND NAME 5853 Environmental Conservation		
Technical: Not Applicable		
(U) C. Other Program Funding Summary (\$ in Thousands)	Not Applicable	
(U) D. Schedule Profile Not Applicable		
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION S	LEET (F	R-2 Exhi	bit)		DATE	March 1996	_
BUDGET ACTIVITY 6 - Management Support		PE NI 060	PE NUMBER AND TITLE 0605854F POIL	PENUMBER AND TITLE 0605854F Pollution Prevention	Prevention	uc			
PROJECT NO. AND NAME 1007 Pollution Prevention									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
1007 Pollution Prevention	0	13,486	20,628	989'9	4,743	5,812	5,927	Continuing	TBD
(U) A. Mission Description and Budget Item Justification This program is in budget activity 6 - Management Support because it funds pollution prevention efforts required to accomplish the objectives and subobjectives of the Air Force Pollution Prevention Strategy to include installation level programs at the Research and Development Activities Installations (Eglin, Arnold, and Edwards AFBs) and cross-cutting weapons systems pollution prevention tools such as the integration of life cycle cost evaluations. It also funds efforts to validate and qualify environmentally acceptable materials and processes to replace existing common hazardous materials and legal requirements), Level 2 (meet future goals, policies, and legal requirements), and legal requirements), Level 2 (meet future goals, policies, and legal requirements) projects. Typical project areas include eliminating the use of ozone depleting chemicals and hazardous materials; reducing the generation of hazardous waste, air emissions, and solid wastes; establishing and operating recycling and composting programs; and establishing hazardous material tracking. Prior to FY 96, all funding for this program vas in program element (PE) 0708054F. To properly realign program funding in FY 96). All RDT&E funding in PE 0708054F.	rt because it tion level pr ution level pr ution tools so lace existing gal requirem slude elimina ing and ope. 96, all fundilget activitie was then rea	funds pollutiograms at the observation of the pollution of common has the ents), Level ating the use rating recycling for this prosecution of the supplied of the pollution of t	ion preventi e Research a egration of . zardous mat 2 (meet futu of ozone dej ing and com ogram was ported instal	on efforts recund Develops life cycle costerials and proceeding chem pleting chem posting program en program e	quired to acc nent Activit t evaluation ocesses. Th icies, and le icials and ha grams; and e slement (PE)	omplish the ies Installati ies Installati is. It also fuu e account pregal requiren zardous mat stablishing 1 0708054F.	objectives a ons (Eglin, , and sefforts to covides fund tents), and I terials; reductarand rectangs in azardous in To properly hed in Jul 94	nd subobjecti Arnold, and I validate and I s for Operatic evel 3 (beyon cing the gene aterial pharm r realign prog	ves of the 3dwards 1 qualify ons and nd goals ration of nacies tram use
 (U) FY 1995 (\$\frac{1}{8}\$ in Thousands): (E) \$0 Program element did not exist this fiscal year. Requirements were funded under pollution prevention PE 0708054F (RDT&E Appropriation). (D) \$0 Total 	scal year. R	equirements	were fundec	i under pollu	ıtion prevent	ion PE 0708	8054F (RDT.	&E Appropri	ation).
 (U) \$\forall \text{5.869} Funding of Eglin, Arnold, and Edwards AFBs pollution prevention requirements (to include solid waste recycling, composting, hazardous waste minimization, and hazardous material management) and cross-cutting weapons systems pollution prevention tools. (U) \$6,617 Validation and qualification of commercially available material, equipment, and processes to support the Montreal Protocol and Air Force Pollution Prevention Strategy objectives and subobjectives in accordance with the Environmental Research and Development Strategic Plan. (U) \$13,486 Total 	rds AFBs ponaterial mar recially ava ves and subc	ollution preve agement) an alable materi objectives in a	antion requir d cross-cutti al, equipme accordance v	rements (to in ing weapons int, and proce with the Env	nclude solid systems pol ssses to supp ironmental I	waste recycl lution prevc ort the Mon Research and	ling, compos ntion tools. treal Protocc 1 Developme	sting, hazarde ol and Air Fo ent Strategic	ous rce Plan.
		Page 1 of 3 Pages	3 Pages				Exhibit R-2	?	





DATE March 1996		cycling, composting, hazardous evention tools. fontreal Protocol and Air Force and Development Strategic Plan.		Exhibit R-2
	vention	le solid waste re ems pollution pr to support the N nental Research	Total TOST TDB TBD	
R-2 Exhibit)	D TITLE Pollution Prevention	irements (to includ titing weapons systent, and processes e with the Environn	FY 1997 21,255 -627 20,628	
N SHEET (PE NUMBER AND TITLE 0605854F POIL	n prevention requent) and cross-cuent and cross-cuent material, equipnives in accordance	FY 1996 14,046 14,046 -276 -175 -109	Page 2 of 3 Pages
STIFICATIO		rds AFBs pollutic naterial managen nercially available ves and subobject	FY 1995 0	Po
RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	BUDGET ACTIVITY 6 - Management Support PROJECT NO. AND NAME	 (U) FY 1997 (\$\frac{\pmatrix}\$ in Thousands): (U) \$\frac{\pmatrix}{\pmatrix}\$ Funding of Eglin, Arnold, and Edwards AFBs pollution prevention requirements (to include solid waste recycling, composting, hazardous waste minimization, and hazardous material management) and cross-cutting weapons systems pollution prevention tools. (U) \$7,268 Funding of Eglin, Arnold, and Edwards AFBs pollution prevention gradual management) and cross-cutting weapons systems pollution prevention of commercially available material, equipment, and processes to support the Montreal Protocol and Air Force Pollution Prevention Strategy objectives and subobjectives in accordance with the Environmental Research and Development Strategic Plan. (U) \$20,628 Total 	 (U) B. Program Change Summary (\$ in Thousands) (U) Appropriated Value (U) Adjustments to Appropriated Value a. Congressional General Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/President's Budget 	

March 1996 DATE 0605854F Pollution Prevention RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 6 - Management Support 1007 Pollution Prevention PROJECT NO. AND NAME BUDGET ACTIVITY

(U) Change Summary Explanation:

and FY 97 reflects adjustments made in the program to increase efforts associated with climinating the requirement for ozone depleting chemicals and reducing activity) for the supported installations. It reflects a transfer of RDT&E appropriation funding from PE 0708054F to PE 0605854F and covers installation level pollution prevention programs and evaluation of commercially available, environmentally acceptable materials and processes. Funding change between FY 96 Funding: This program element was established to properly realign program funding into the appropriate budget structure (major force program and budget the use of hazardous materials and the generation of hazardous waste. The FY 97 reduction from the FY 96 PB reflects the revised economic assumptions forecast.

Technical: Not Applicable Schedule: Not Applicable

(U) C. Other Program Funding Summary (\$\section\$ in Thousands): Not Applicable (U) D. Schedule Profile: Not Applicable

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RDT&E BUDGET ITEM JU	JSTIFICATION SHEET (R-2 Exhibit)	ION SI	HEET (R	-2 Exhil	oit)		DATE M	March 1996	9
BUDGET ACTIVITY 6 - Management Support		PE NI 060	PE NUMBER AND TITLE 0605856F Envi	TITLE Environmental Compliance	ental Co	mpliance			
PROJECT NO. AND NAME 5856 Environmental Compliance									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
5856 Environmental Compliance	42,375	25,692	22,698	22,632	21,631	21,336	22,042	Continuing	TBD
(U) A. Mission Description and Budget Item Justification	a 1								
This program element provides environmental compliance services at three Air Force Material Command Major Range and Test Facility Bases: Eglin AFB, FL, Edwards AFB, CA; and Arnold AFB, TN. The account pays for operations and services (O&S or recurring work to keep the gates open), Level I (work to correct current non-compliance with federal, state or local environmental laws) and Level II (work to correct known future non-compliance) projects. Typical services and projects include: hazardous waste management and disposal; upgrade and removal of underground fuel storage tanks; air and water pollution compliance projects; asbestos abatement and disposal; and polychlorinated biphenyl elimination. Account also funds for environmental sampling and analysis; studies; testing and inspections; permits and fees. Funding for environmental conservation was moved to PE 65853F in FY96 and beyond.	diance services for operations and Level III and removal of ation. Account d to PE 65853F	at three Air and services (work to cc f undergrou also funds in FY96 ar	Force Mate: (O&S or re- orrect known and fuel stora for environn and beyond.	rial Commar curring work future non- ge tanks; air lental sampl	nd Major Ra t to keep the compliance) and water t ing and ana	nge and Tes gates open) projects. T odlution cor lysis; studies	it Facility Ba , Level I (wo ypical servic npliance proj ;; testing and	ses: Eglin Ark to correct es and proje jects; asbeste inspections	AFB, FL; current cts ss ; permits
 (U) FY 1995 (U) \$24,757 Funded essential "must pay" O&S requirements such as civilian pay, hazardous waste disposal; and environmental permits and fees. (U) \$10,518 Funded Level I (out of compliance) requirements. (U) \$7,100 Funded a limited number of projects classified as Level II (required to meet a known future compliance date). Funding only permitted accomplishment of the most critical of these requirements that would have gone out of compliance during the FY. (U) \$42,375 Total 	requirements s) requirements. its classified as ements that wo	uch as civili Level II (rec uld have goi	ian pay, hazz quired to me ne out of con	urdous waste et a known f npliance dur	disposal; ar uture compl ing the FY.	nd environm iance date).	ental permits Funding on	s and fees. ly permitted	
 (U) FY 1996 (U) \$21,753 Fund essential "must pay" O&S requirements such as civilian pay, hazardous waste disposal; and environmental permits and fees. (U) \$3,400 Fund Level I (out of compliance) requirements. (U) \$539 Fund a limited number of projects classified as Level II (required to meet a known future compliance date). Funding will only permit accomplishment of the most critical of these requirements that would go out of compliance during the program FY. (U) \$25,692 Total 	quirements suc equirements. classified as Le ements that wo	h as civilian wel II (requ uld go out o	ı pay, hazard ired to meet f complianc	lous waste di a known fut e during the	isposal; and ure compliar program FY	environmen nce date). F	tal permits a unding will (nd fees. only permit	
- (U) <u>FY 1997</u> - (U) \$17,920 Fund essential "must pay" O&S requirements such as civilian pay, hazardous waste disposal; and environmental permits and fees (U) \$2,900 Fund Level I (out of compliance) requirements.	quirements suc	h as civiliar	ı pay, hazard	lous waste di	isposal; and	environmen	ıtal permits a	nd fees.	
		Page 1 o	Page 1 of 3 Pages				Exhibit R-2	?-2	

	RDT&E BUDGET ITEM JUST	FICATION	SHEET (I	TIFICATION SHEET (R-2 Exhibit)		DATE March 1996
800G 6 - 1	вироет Астіиту 6 - Management Support		PE NUMBER AND TITLE 0605856F Envi	TITLE Environment	D TITLE Environmental Compliance	
PROJI 585 6	PROJECT NO. AND NAME 5856 Environmental Compliance					
'	 (U) \$1,878 Fund a limited number of projects classified as Level II (required to meet a known future compliance date). Funding will only permit accomplishment of the most critical of these requirements that would go out of compliance during the program fiscal year. (U) \$22,698 Total 	ied as Level II (that would go	required to meet out of complianc	a known future c e during the prog	ompliance date). ram fiscal year.	Funding will only permit
<u>(a)</u>	(U) Acquisition Strategy: Not Applicable					
(E)	(U) B. Program Change Summary (\$\frac{1}{2}\$ in Thousands)					
(G) F	(U) FY96 President's Budget (U) Appropriated Value	FY 1995 42,375 42,876	FY 1996 26,423 26,423	$\frac{\text{FY } 1997}{23,220}$	Total <u>Cost</u> TBD	
9	Adjustments to Appropriated Value a. Congressional Reduction b. General Reductions	-10	-517			
	c. Below Threshold Reprogramming d. SBIR	4	-11			
) (D)	e. Omnibus or Other Above Threshold Reprogramming* (U) Adjustment to Budget Years		-203	-522		
<u>5</u>	(U) Current Budget/President's Budget	42,375	25,692	22,698	TBD	
9	Change Summary Explanation: Funding: From FY96-01 \$14,000,000 per year was transferred from this program element to the environmental conservation program element (65853F) along with the responsibility for compliance with natural and cultural resources laws. Adjustments to FY95 include a general reduction of \$495,000 and a below	red from this progr ural resources laws	rogram element	to the environmer its to FY95 includ	ntal conservation p	rogram element (65853F) alor ion of \$495,000 and a below

threshold reprogramming of \$4,000 from PE 65807F. Adjustments to FY96 include a Congressional reduction of \$517,000, small business investment research reduction of \$11,000, and other above threshold reprogramming of \$203,000. FY97 funding is less than FY96's PB request because of fewer required O&S requirements. Adjustments to the budget year are due to lower than anticipated inflation rates.

Schedule: Not Applicable

Page 2 of 3 Pages





Technical: Not Applicable (U) C. Other Program Funding Summary (S in Thousands) Not Applicable (U) D. Schedule Profile Not Applicable		
Technical: Not Applicable	Technical: Not Applicable	Technical: Not Applicable
Technical: Not Applicable	Technical: Not Applicable	Technical: Not Applicable
Technical: Not Applicable	Technical: Not Applicable	Technical: Not Applicable
Technical: Not Applicable	Technical: Not Applicable	Technical: Not Applicable
Technical: Not Applicable	Technical: Not Applicable	Technical: Not Applicable
Technical: Not Applicable	Technical: Not Applicable	Technical: Not Applicable
Tachnical: Not Annlicable	Tachnical Not Annlicable	Tochnical: Not Applicable
T L i - d	T 1	Taring Mark Annalisated

	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SE	HEET (R	-2 Exhi	bit)		DATE	March 1996	w w
BUDGET ACTIVITY 6 - Management Support	ent Support		PE NL 000	PE NUMBER AND TITLE 0605860F Rock	ritle Rocket Sy	PENUMBER AND TITLE 0605860F Rocket System Launch Program	unch Pro			
PROJECT NO. AND NAME 1023 Rocket System	PROJECT NO. AND NAME 1023 Rocket System Launch Program (RSLP)									
	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
1023 Rocket Syster	Rocket System Launch Program (RSLP)	0	32,808	8,152	8,474	8,609	8,866	8,999	Continuing	Continuing
(U) A. Mission D (U) Rocket S government a storage and d the user (Air) and other asse	esc sen spo spo orc	rovide Resea e Secretary of selected Do Organizatio	uch, Develo of Defense in D RDT&E I n, etc.). RS erations req	pment, Test 11972. It p aunches. C LP directly;	and Evaluar rovides miss osts directly supports dea	Secretary of Development, Test and Evaluation (RDT&E) launch vehicle support to DoD and other Secretary of Defense in 1972. It provides mission planning, payload integration, launch support, booster selected DoD RDT&E launches. Costs directly attributable to a specific launch or program are paid by Drganization, etc.). RSLP directly supports deactivation of Minuteman II by providing storage of these support operations required for general rocket system launch research and development use.	E) launch ve g, payload in to a specific Minuteman ch research &	thicle suppor tegration, la launch or p II by providi	t to DoD and nunch suppor rogram are r ing storage o nent use.	1 other t, booster aid by f these
(U) <u>FY 1995</u>	Funding shown in FY95 Budget Item Justification carried over from ICBM Dem/Val (PE 0603851F) (RSLP Project (BPAC 1023) and Long Range Planning Project (BPAC 4209)); see that PE for details concerning appropriation and adjustments thereto.	tification car PE for detai	rried over fra Is concernin	om ICBM D g appropriat	em/Val (PE tion and adji	fication carried over from ICBM Dem/Val (PE 0603851F) (RSI E for details concerning appropriation and adjustments thereto.	(RSLP Proje reto.	ect (BPAC 10	323) and Lor	ig Range
5 5555	Researched test launch vehicle configurations; developed, acquired, stored and maintained test launch vehicles, motors, components, facilities and capabilities in support of projected governmental user requirements. Provided necessary storage requirements for deactivated Minuteman and other missile flight test assets. \$8,458 Continued Multiservice Launch System (MSLS) development. Develop transportable launch support equipment to launch from various national and state test ranges. \$7,500 Provided launch assets and technical assistance for all DoD RDT&E launches. (Funded by Users). Total \$30,818	ns; develope errimental us r deactivated SLS) develol ment to laur ince for all I	d, acquired, er requirem Minutemar oment. eth from var ood RDT&E	stored and 1 cnts. 1 and other 1 ious nations? 2 launches.	maintained t nissile fligh and state t (Funded by	test launch v t test assets. test ranges. Users).	ehicles, mot	ors, compon	ents, facilities \$5,369 \$8,458 \$9,491 \$7,500 \$0 \$30,818	S
(U) FY 1996										
- (U) \$4,282 - (U) \$11,500 - (U) \$16,800 - (U) \$0 - (U) \$226 - (U) \$32,808	Continue storage and refurbishment of deactivated Minuteman and other missile flight test assets. Launch Air Force Academy cadet-developed satellite Develop transportable range equipment Provide launch assets and technical assistance for all DoD RDT&E launches. (Funded by Users). Partial payment of General Reductions assessed Guidance Applications Project and RSLP Project, ICBM Dem/Val Program (PE 0603851F, BPACs 1020 and 1023 respectively) Total	tivated Minu d satellite ice for all Do ssed Guidan	nteman and DR RDT&E	other missil launches. (I ons Project a	e flight test : Funded by U	assets. Jsers). roject, ICBN	1 Dem/Val	Program (PE	t 0603851F,	
			Page 1 of 3 Pages	3 Pages			; ;	Exhibit R-2	-5	





RDT&E BUDGET ITEM JU	STIFICATION SHEET (R-2 Exhibit)	N SHEET (I	۲-2 Exhib	it)	DATE March 1996
BUDGET ACTIVITY 6 - Management Support		PE NUMBER AND TITLE 0605860F ROCK	TITLE Rocket Sys	DE05860F Rocket System Launch Program	ogram
PROJECT NO. AND NAME 1023 Rocket System Launch Program (RSLP)					
 (U) FY 1997 (U) \$6,126 (D) \$6,126 (D) \$2,026 (D) \$2,026 (D) \$0.126 (D) \$0.126 (D) \$0.126 (D) \$0.126 (D) \$0.126 (E) Perform aging/surveillance-related activities on stored motors, perform analyses/studies to identify and evaluate potential safety-related issues affecting stored motors. (D) \$0.126 (E) \$0.126	activated Minutem ies on stored motor ance for all DoD R	an and other miss rs; perform analys DT&E launches.	ile flight test a es/studies to id (Funded by Us	ssets. entify and evaluate poters).	ential safety-related issues
(U) Acquisition Strategy: Not applicable					
(U) B. Program Change Summary (§ in Thousands)				Total	
(U) Previous President's Budget (U) Appropriated Value	FY 1995 0 0	FY 1996 5,949 22,749	<u>FY 1997</u> 6,126	Continuing	
(U) Adjustments to Appropriated Value a. Congressional/General b. SBIR		-220** -523			
c. Below Threshold Reprogramming d. Omnibus and other Above Threshold (U) Adjustments to Budget Years Since FY96 PB (U) Current Budget Submit/President's Budget	0	-473 11,275 32,808	2,026	Continuing	
(U) Change Summary Explanation:	•				

Funding: The FY96 President's Budget funding request covered only booster storage; the increase in FY97 and outyears supports aging surveillance-related activities for stored motors to monitor/ensure the continued safety of stored assets. Congressional FY96 Appropriation included an additional \$16,800 to develop transportable launch and range support instrumentation. Also, \$11,275 appropriated in FY96 to PE 0603851F (BPAC 1023 - RSLP) has been reprogrammed into this PE. FY97-01 has also been adjusted for non-pay inflation.

* The FY96 PB amount does not reflect funding reductions that are reserved for other DoD reprogramming needs (\$-358)

** Includes credit for \$226 for partial payment of General Reductions assessed against Guidance Applications, ICBM Dem/Val Program (PE 0603851F, BPAC 1020)

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Page 2 of 3 Pages

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0605860F Rocket System Launch Program	1
PROJECT NO. AND NAME 1023 Rocket System Launch Program (RSLP)		
Schedule: No impact.		
Technical: See above.		
(U) C. Other Program Funding Summary (\$ in Thousands): Not Applicable		
Related RDT&E: (U) PE 0603851F (ICBM Modernization Dem/Val)		
(U) D. Schedule Profile: Not applicable.		
Pag	Page 3 of 3 Pages	Exhibit R-2





RDT&E BUDGET ITEM JUS	STIFICATION SHEET (R-2 Exhibit)	TION SE	IEET (R	-2 Exhib	oit)		N S	March 1996	6
BUDGET ACTIVITY 6 - Management Support		PE NU 0 60	PE NUMBER AND TITLE 0605896F Base Operations - RDT&E	пте ase Opel	rations -	RDT&E			
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	106,125	121,556	128,676	134,789	125,468	103,449	87,520	0	ТВД
06BS Base Operating Support	60,567	72,898	80,372	82,138	71,237	47,591	29,986	0	TBD
06CE Other Support	20,358	22,792	21,131	24,663	25,403	26,165	26,950	Continuing	ТВD

(U) A. Mission Description and Budget Item Justification: This program element provides basic, essential real property services and base operating support at Eglin aggregate population in excess of 55,000 people. Civilian payroll represents approximately 40 percent of the total program, with the remainder of the program financing MRTFB for test and evaluation. The program finances "quality of life" costs for day-to-day support for these three bases which have over 90 tenant organizations and an administrative support, security and guard services, dormitories, billeting, food services, training, utility operations, civil engineering services, transportation, and motor AFB, FL; Edwards AFB, CA; and Arnold AFB, TN. The host units for these bases, respectively, are: Air Force Development Test Center (AFDTC), Air Force Flight pools. Functions supported by this program element include comptroller, chaplain, personnel, supply, transportation and information management. Beginning in FY belonging to the DoD Major Range and Test Facility Base (MRTFB). These Air Force installations are unique national assets specifically established as part of the 96, Base Operating Support mission and associated funding (\$26,400) were transferred from PE 65807F (Arnold Engineering Development Center) into 65896F. Test Center (AFFTC) and Arnold Engineering Development Center (AEDC). These host units form the core of the Air Force Test and Evaluation infrastructure contained errors of approximately \$7-\$10 million/FY. FY96 error (\$9.9 million) was corrected by Congressional mark up of FY96 PB. FY97 and outyears were Purpose of the transfer was to more accurately account for BOS type efforts within PE 65896F at the three AF RDT&E bases. Transfer reflected in previous PB adjusted for the Current President's Budget submission (FY97-01)

Continuing

28,828

27,988

27,173

25,866

25,200

06UT Operations Of Utilities

Page 1 of 8 Pages

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHEET	(R-2 Exhibit)		DATE March 1996
вирсет АстіvітY 6 - Management Support	PE NUMBER AND TITLE 0605896F Base	FE NUMBER AND TITLE OGO 5896F Base Operations - RDT&E	ons - RDT&E	
(U) B. Program Change Summary (\$ in Thousands):			F.	
(U) Previous President's Budget (U) Appropriated Value	FY 1996 117,083 123,983	FY 1997 124,311	Cont	
(U) Adjustments to Appropriated Value a. ADP Savings Sec 8101 b. Economic Assum Sec 8125	-25			
d. Adjustments to FY 97 budget year (U) Current Budget Submit/President's Budget	-1,656	+4,365 128,676	Cont	

(U) Change Summary Explanation:
Funding: FY 97 funding increase from previous President's budget (\$4,365) is actually a realignment of BOS content and funding from PE 65807F as explained in the justification.

Schedule: None.

Technical: None.

- (U) C. Other Program Funding Summary (\$ in Thousands): Not applicable.
- (U) D. Schedule Profile: Not applicable.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICAT	TION ST	IEET (R	-2 Exhit	oit)		DATE M	March 1996	40
BUDGET ACTIVITY 6 - Management Support		PE NU 060	PE NUMBER AND TITLE 0605896F Base	пге ase Ope	ΣΤΙΤΙΕ Base Operations - RDT&E	RDT&E			
PROJECT NO. AND NAME 06BS Base Operating Support									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
06BS Base Operating Support	60,567	72,898	80,372	82,138	71,237	47,591	29,986	0	ТВD
(U) A. <u>Mission Description and Budget Item Justification</u> : Finances essential base operating support which includes civilian pay, security and guard services, dormitories, billeting, food services, training, transportation and motor pools, comptroller, chaplain, supply, information management and quality of life services for the three bases. FY 97 increase due to realignment of BOS content and funding from PE 65807F.	Finances essential base operating support which includes civilian pay, security and guard services, d motor pools, comptroller, chaplain, supply, information management and quality of life services it and funding from PE 65807F.	ential base o , comptrolle , from PE 65	perating sup r, chaplain, 5807F.	port which supply, info	includes civi rmation mar	lian pay, se nagement ar	curity and gu d quality of	iard services, life services f	or the
 (U) \$\frac{\text{FY 1995 (\$\frac{\text{in Thousands}}}{\text{Supported mission-related travel.}}\$ (U) \$\frac{\text{\$1367}}{\text{Supported mission-related travel.}}\$ (U) \$\frac{\text{\$1,300}}{\text{\$4,200}}\$ Supported rental and transportation costs (permanent change of stations [PCS]). (U) \$\frac{\text{\$4,200}}{\text{\$5,900}}\$ Supported communications systems, tools, contract education, and equipment maintenance. (U) \$\frac{\text{\$5,900}}{\text{\$5,900}}\$ Supported supplies, fuels, and miscellaneous contract services. (U) \$\frac{\text{\$5,700}}{\text{\$5,700}}\$ Supported information processing and other equipment, data processing services, and non-flying support of depot-level repairables. (U) \$\frac{\text{\$60,567}}{\text{\$5,700}}\$ 	ion costs (perrins, tools, con iscellaneous c	manent char tract educat ontract serv quipment, d	ige of statior ion, and equ ices. ata processin	is [PCS]). ipment mair g services, 8	ntenance. ınd non-fiyii	ng support o	f depot-level	repairables.	
\$35,270 \$1,700 \$5,400 \$6,900 \$16,500 \$1,311	on costs (perm ns, tools, cont scellaneous co	anent chang ract educatic ntract servic uipment, dat	ge of stations on, and equip ces.	[PCS]). oment maint services, an	enance. id non-flyin	g support of	depot-level 1	epairables.	
- (U) \$/2,898 10tat		Page 3 of 8 Pages	'8 Pages	·			Exhibit R-2	-2	

RDT&E BUDGET ITEM JUSTIFICATIO	N SHEET (TIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0605896F Base	PE NUMBER AND TITLE 0605896F Base Operations - RDT&E	
PROJECT NO. AND NAME 06BS Base Operating Support			
 (U) \$\forall \$\forall \$	nt change of statio education, and equ st services. ent, data processi	costs (permanent change of stations [PCS]). tools, contract education, and equipment maintenance. llaneous contract services. id other equipment, data processing services, and non-fl	costs (permanent change of stations [PCS]). tools, contract education, and equipment maintenance. llaneous contract services. nd other equipment, data processing services, and non-flying support of depot-level repairables.
(U) B. Program Change Summary (\$\sumsymbol{s}\$ in Thousands):			
(U) Previous President's Budget 60,567 (U) Appropriated Value	FY 1996 67,453 74,353	<u>FY 1997</u> 73,193	Total <u>Cost</u> Cont
(U) Adjustments to Appropriated Value a. ADP Savings Sec 1801 b. Economic Assum Sec 8125 c. Overhead/Imprvd Mgmt Sec 8129	-15 -447 -993		
d. Adjustments to FY 97 budget year (U) Current Budget Submit/President's Budget 60,567	72,898	7,179 80,372	Cont
(U) Change Summary Explanation: Function by President's Budget is due to realignment of BOS content and funding from PE 65807F.	to realignment or	f BOS content and fun	ding from PE 65807F.
Schedule: None.			
Technical: None.			
(U) C. Other Program Funding Summary (\$ in Thousands): Not applicable.			

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(U) D. Schedule Profile: Not applicable.





RDT&E BUDGET ITEM JUS	STIFICA	FION SF	HEET (R	TIFICATION SHEET (R-2 Exhibit)	oit)		DATE	March 1996	9
BUDGET ACTIVITY 6 - Management Support		PE NU 060	PE NUMBER AND TITLE 0605896F Base	ਹ ਸਾ⊓ੁ Base Operations	rations -	RDT&E			
PROJECT NO. AND NAME 06CE Other Support									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
06CE Other Support	20,358	22,792	21,131	24,663	25,403	26,165	26,950	Continuing	TBD
(U) A. <u>Mission Description and Budget Item Justification</u> : Provides resources for fundamental civil engineering services such as custodial, fire protection, hazard material systems certification, refuse collection, insect and pest control, rentals and leases, architectural and engineering design, grounds maintenance as well as civil engineering administrative costs, including equipment, supplies, temporary duty and civilian pay.	Provides rest control, rentes, temporary	ources for fu als and lease duty and civ	indamental es, architecti ilian pay.	civil enginee aral and eng	ring service ineering des	s such as cu ign, ground	stodial, fire p s maintenanc	Provides resources for fundamental civil engineering services such as custodial, fire protection, hazardous control, rentals and leases, architectural and engineering design, grounds maintenance as well as civil, temporary duty and civilian pay.	azardous civil
\$95 (\$ in Thorst \$7,126 \$400	CE services.		•						
 (U) \$900 Miscellaneous contract services, contract education, and equipment mannenance. (U) \$7,500 Custodial service, supplies, fuels and equipment purchases. (U) \$20,358 Total 	contract educ and equipme	ation, and ed nt purchases	quipinent ins s.	amichance.					
(U) FY 1996 (\$ in Thousands) - (U) \$7,548 Civilian positions. - (U) \$500 Mission-related travel. - (U) \$4,788 Architect/engineering and other CE services. - (U) \$1,484 Miscellaneous contract services, contract education, and equipment maintenance. - (U) \$8,472 Custodial service, supplies, fuels and equipment purchases. - (U) \$22,792 Total	CE services. contract educ and equipme	ation, and e	quipment m s.	aintenance.					
		Page 5 of 8 Pages	'8 Pages				Exhibit R-2	2-2	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ION SHEET	R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0605896F Base	D TITLE Base Operations - RDT&E	
PROJECT NO. AND NAME 06CE Other Support			
 (U) \$\forall \text{FY 1997 (\forall in Thousands)}\$ (U) \$\forall \text{6,748}\$ Civilian positions. (U) \$\forall \text{441}\$ Mission-related travel. (U) \$\forall \text{4,147}\$ Architect/engineering and other CE services. (U) \$\forall \text{4,12}\$ Miscellaneous contract services, contract education, and equipment maintenance. (U) \$\forall \text{8,383}\$ Custodial service, supplies, fuels and equipment purchases. (U) \$\forall \text{21,131}\$ Total 	ion, and equipment purchases.	maintenance.	
(U) B. Program Change Summary (\$ in Thousands):		E	•
(U) Previous President's Budget 20,358	$\frac{\text{FY } 1996}{23,248}$	$\frac{\text{FY } 1997}{23,945} \qquad \qquad \boxed{0}$	Lotal Cost Cont
(U) Adjustments to Appropriated Value a. ADP Savings Sec 1801 b. Economic Assum Sec 8125	-5 -140		
c. Overhead/Imprvd Mgmt Sec 8129 d. Adjustments to FY 97 budget year (U) Current Budget Submit/President's Budget 20,358	-311 22,792	-2,814 21,131 C	Cont
(U) Change Summary Explanation: Funding: None.			
Schedule: None.			
Technical: None. (U) C. Other Program Funding Summary (\$\mathcal{S}\$ in Thousands): Not applicable.	ole.		
(U) D. Schedule Profile: Not applicable.			

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TUG	BOTRE BLINGET ITEM HISTIEICATION SHEET (R-2 Exhibit)	TIFICAT	15 NOI	FET (R	-2 Exhil)it)		DATE	March 1006	
BUDGET ACTIVITY			PE NU	PE NUMBER AND TITLE	TITLE Base Onerations - RDT&F	rations -	RNTRF		מוכוו	
PROJECT NO. AND NAME 06UT Operations Of Utilities	illities									
00	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
06UT Operations Of Utilities		25,200	25,866	27,173	27,988	28,828	29,693	30,584	Continuing	ТВО
(U) A. Mission Description and sewage treatment plant unique test mission. FY 97	(U) A. Mission Description and Budget Item Justification: Finances purchase of utilities (electricity, natural gas, water and sewage treatment), base operation of and sewage treatment plants and distribution systems. Amounts of utilities consumed and waste processed for discharge exceed those of other operating bases due to unique test mission. FY 97 increase due to forecast local utility rate increases.	Finances pur ts of utilities of r rate increase	chase of uti consumed arss.	lities (electr nd waste pro	icity, natura cessed for d	l gas, water ischarge exc	and sewage eed those of	treatment), t other operat	Finances purchase of utilities (electricity, natural gas, water and sewage treatment), base operation of water s of utilities consumed and waste processed for discharge exceed those of other operating bases due to rate increases.	of water to
(U) <u>FY 1995 (\$ in Thousands)</u> – (U) \$2,200 Civilia	nousands) Civilian positions.									
- (U) \$19,900 - (U) \$700	Purchased utilities. Rentals, other CE, contract education, travel and miscellaneous contracts.	tion, travel an	nd miscellar	icous contra	cts.					
- (U) \$2,400 - (U) \$25,200	Equipment purchases and maintenance, supplies and materials, and fuels. Total	nance, suppli	es and mate	rials, and fu	iels.					
(U) FY 1996 (\$ in Thousands)	nousands)									
- (U) \$2,157 - (U) \$20.081	Civilian positions. Purchased utilities.									
- (U) \$1,177 - (U) \$2,451	Rentals, other CE, contract education, travel and miscellaneous contracts. Equipment purchases and maintenance, supplies and materials, and fuels.	tion, travel a	nd miscellares and mate	neous contra rials, and fu	icts. iels.					
- (U) \$25,866	Total									
(U) FY 1997 (\$ in Thousands)	housands)									
- (U) \$2,300	Civilian positions.									
- (U) \$1,500 - (U) \$1,500	Rentals, other CE, contract education, travel and miscellaneous contracts.	tion, travel a	nd miscellar	neous contra	cts.					
- (U) \$2,500 - (U) \$27,173	Equipment purchases and maintenance, supplies and materials, and fuels. Total	snance, suppli	es and mate	rials, and fu	iels.					
			1	,					Ç	
			Page 7 of 8 Pages	8 Pages				Exhibit R-2	?-2	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 6 - Management Support	PE NUMBER AND TITLE 0605896F Base	PE NUMBER AND TITLE OGO 5896F Base Operations - RDT&E	ns - RDT&E	
PROJECT NO. AND NAME 06UT Operations Of Utilities				
(U) B. Program Change Summary (\$ in Thousands)			Total	
(U) Previous President's Budget 25,200	15 <u>FY 1996</u> 10 26,382	$\frac{\text{FY } 1997}{27,173}$	Cont	
(U) Appropriated Value (U) Adjustments to Appropriated Value	26,382			
a. ADP Savings Sec 1801 b. Economic Assum Sec 8125	-6 -158			
c. Overhead/Imprvd Mgmt Sec 8129 (U) Current Budget Submit/President's Budget 25,200	-352 00 25,866	27,173	Cont	
(U) Change Summary Explanation: Funding: None.				
Schedule: None.				
Technical: None.				
(U) C. Other Program Funding Summary (\$ in Thousands): Not applicable	cable.			

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(U) D. Schedule Profile: Not applicable.





RDT&E BUDGET ITEM JU	FEM JUS	TIFICA.	TION SI	USTIFICATION SHEET (R-2 Exhibit)	-2 Exhit	oit)		DATE M	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development	t		PE NI 010	PE NUMBER AND TITLE 0101113F B-52 Squadrons	TTLE 3-52 Squa	Idrons			:	
							•			
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	Cost to	Total Cost

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	0	20,005	11,035	955	0	0	0	0	4,518	36,513
4401 Air Force Mission Support System	0	2,801	5,507	955	0	0	0	0	0	9,263
4370 Advanced Weapons Integration	0	3,742	0	0	0	0	0	0	0	3,742
4371 Global Positioning System TACAN Emulation	0	9'082	0	0	0	0	0	0	0	9,085
4402 Electronic Countermeasures Improvement	0	0	4,921	0	0	0	0	0	0	4,921
4493 B-61 Mod 11 Flight Tests	0	0	607	0	0	0	0	0	4,518	5,125
4494 AGM-130 Integration	0	4,377	0	0	0	0	0	0	0	4,377

(U) A. Mission Description and Budget Item Justification

Munitions Dispenser (WCMD), Joint Direct Attack Munition (JDAM), Joint Stand-off Weapon (JSOW), and the Joint Air-to-Surface Stand-off Missile (JASSM). The Air Congressionally-directed GPS-2000. Electronic Countermeasures Improvement supports a DESERT STORM identified deficiency. The B-61 Mod 11 program was added This program is in budget activity 7 - Operational System Development because it supports a currently operational system. The B-52 is the primary nuclear roled bomber capability. The B-52 is undergoing a Conventional Enhancement Modification which allows it to carry MIL-STD 1760 weapons. The current service life of the aircraft extends past 2030. The Advanced Weapons Integration (AWI) program supports the conventional enhancement of the B-52 through the addition of the Wind Corrected program manager is provided by Air Force Material Command's Oklahoma Air Logistics Center. The prime contractor for these projects is Boeing Defense and Space at the direction of the Nuclear Posture Review and Presidential Decision Directive-30. The AGM-130 integration is directed by Congressional language. The B-52 in the USAF inventory. It provides the only Air Launch Cruise Missile carriage within the USAF. The B-52 also provides theater CINCs with a long range strike Force Mission Support System supports the Air Force movement of all mission planning to a common system. GPS TACAN Emulation provides support to the

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RDT&E BUDGET ITEM JUSTIFICATIO	STIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0101113F B-52 Squadrons	

- The AFMSS program is organically conducted at OC-ALC/LAS. Previously funded by the AFMSS Program Element.
- supported by OC-ALC/LH. Due to the short notice requirement, interface development and initial software requirements definition is being accomplished under the modification, there is limited risk. Due to this concurrency, the procurement of production hardware and release of formal tech data will be sole source to BD&SG. B-52 fleet support contract; a time and materials contract. The first phase will be to support the Direct Attack Stores Management Overlay (SMO) Developmental Required Assets Availability (RAA) date, concurrency of the production and RDT&E efforts is required. With no direct aircraft modifications associated with this Test and Evaluation (DT&E) and DT&E of hardware interface equipment. The Direct Attack SMO supports WCMD and JDAM. The second phase will support the DT&E of the Stand-off SMO. The Stand-off SMO supports JSOW and JASSM. Due to the concurrency of the RDT&E program and the need for an early 2. The AWI program placed Boeing Space and Defense Group Wichita, KS (BD&SG) on a Cost Plus-Fixed-Fee contract as the Product Development Organization,
 - 3. The GPS TACAN program placed Boeing Space and Defense Group, Wichita, KS on a Firm-Fixed-Price contract as the Product Development Organization, supported by OC-ALC/LH, WR-ALC/LKN and OO-ALC/LIH.
 - The ECM Improvement program placed Boeing Space and Defense Wichita, KS and ITT Avionics Nutley, NJ on Firm-Fixed-Price contracts as Product Development Organizations. Bocing provides the aircraft specific integration expertise, while ITT provides expertise on the ALQ-172 system. They are supported by OC-ALC/LH and WR-ALC/LNR. 4.
- 5. The Department of Energy is organically conducting the modifications to the B-61 weapon.

 6. The AGM-130 Integration program placed Boeing Space and Defense Group Wichita, KS on a Firm-Fixed-Price contract as the Product Development Organization, supported by OC-ALC/LH and Rockwell Corporation.

(U) B. Program Change Summary (\$ in Thousands)

Total	Cost	23962	27305	133	12913	64047	
	FY 1997	7457	0	0	3,578	11,035	
	FY 1996	16505	21005	-1,000	0	20,005	
	FY 1995	0	0	0	0	0	
		(U) Previous President's Budget	(U) Appropriated Value	(U) Adjustments to Appr Value (Undist Cong Reductions)	(U) Changes to Current Year Budget	(U) Current Budget Submit/President's Budget	

(U) Change Summary Explanation:

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	JUSTIFICA	TION SH	EET (R-	2 Exhib	it)	D	DATE Ma	March 1996	
BUDGET ACTIVITY 7 - Operational System Development		PE NUN 0101	PE NUMBER AND TITLE 0101113F B-52	TITLE B-52 Squadrons	Irons				
Funding: FY96 Congressional Appropriations added \$4.5M for AGM-130 Integration.	ns added \$4.5M for	r AGM-130 In	tegration.						
Schedule: None									
Technical: None									
(U) C. Other Program Funding Summary (\$ in Thousands)	usands)								
(U) Aircraft Procurement (PE 11113F) (U) Missile Procurement (PE 11113F) (U) Mission Planning Systems (PE 28006F)	FY 1995 FY 1996 34,317 4,765 2,175 2,002 180 0	FY 1997 8,782 1,855	EY 1998 31,391 1,926 0	FY 1999 65,490 2,002 0	FY 2000 43,302 2,062 0	FY 2001 34,127 2,125 0	To Compl 24,400 n/a n/a	Total <u>Cost</u> 246,574 n/a	
(U) D. Schedule Profile									
-	FY 1997 2 3 4	1 2 字	FY 1998 2 3	4	FY 1999 2 3	<u>9</u> 3 4	1 2	$\frac{\text{FY } 2000}{2}$	4
(U) WCMD IOC (U) GPS TACAN IOC (U) ECM Improvement IOC (U) B-61 Mod 11 Flight Test Completed	×	₹ 4. 			×		× /	u	
	÷								
		Page 3 of 24 Pages	4 Pages				Exhibit R-2	2	

RD	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	TION SE	HEET (R	-2 Exhi	bit)		DATE	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development	stem Developmen			PE NL 010	PE NUMBER AND TITLE 0101113F B-52	D TITLE B-52 Squadrons	adrons				
PROJECT NO. AND NAME 4401 Air Force Mission Support System	n Support System										
COST (\$	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	Cost to Complete	Total Cost
4401 Air Force Mission Support System	oort System	0	2,801	5,507	955	0	0	0	0	0	9,263
(U) A. <u>Mission Description and Budget Item Justification</u> Air Force Mission Support System (AFMSS) previously funded out of the AFMSS program element. Develops an aircraft specific avionics/weapons/electronic countermeasures (A/W/E) module to be used in conjunction with core AFMSS. AFMSS is the replacement mission planning system for the current B-52 Mission Data Preparation System. AFMSS will provide future ground/inflight mission planning capability. Block 1 provides the capability to plan nuclear weapons via AFMSS. Block 3 of this project will add smart weapons (like JASSM and JDAM) capabilities and enhancements to the first two AFMSS blocks. Provides funding for the Periodic Depot Maintenance of the B-52H test aircraft stationed at Edwards Air Force Base.	ion and Budget Item Ju t System (AFMSS) previous module to be used in con ISS will provide future gres the capability to plan row AFMSS blocks. Prov	stification ously funded junction wit ound/infligh uclear weap	out of the A h core AFM t mission pl ons via AFN	FMSS progr SS. AFMSS anning capal fSS. Block 3 odic Depot N	ram element is the repla bility. Block 3 of this proj	Develops : cement miss c I provides ject will add : of the B-52	an aircraft si sion plannin the capabilii I smart weap	oecific avion g system for ty to plan co ons (like JA ft stationed.	iics/weapons. the current I nventional g SSM and JD at Edwards A	/electronic B-52 Mission gravity missic AM) capabil Air Force Ba	n Data ons at the lities and se.
(U) <u>FY 1995</u> - (U) \$0	No activity										
(U) <u>FY 1996</u> - (U) \$2,801 - (U) \$2,801	Block 2 nuclear software development Total	developmen									
(U) <u>FY 1997</u> - (U) \$5,507 1 - (U) \$5,507	Block 3 conventional software development for advanced weapons and PDM for the B-52H test aircraft. Total	tware develo	oment for ac	ivanced wea _l	pons and PD)M for the B	-52H test ain	craff.			
				Page 4 of 24 Pages	4 Pages				Exhibit R-2	7	
	:			1163							
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (F	२-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0101113F B-52	ЭТІТЕ B-52 Squadrons	
PROJECT NO. AND NAME 4401 Air Force Mission Support System			
(U) B. Program Change Summary (\$\sec{8}\$ in Thousands)			
FY 1995	FY 1996	Total FY 1997 Cost	
(U) Previous President's Budget	2,983	2,386 5,369 0 2,983	
(U) Adjustments to Appr Value (Undist Cong Reductions) (U) Changes to Current Year Budget (U) Current Budget Submit/President's Budget	-182 0 2,801	0 -182 3,121 3,121 5,507 8,308	
	he B-52H test aircr	aft.	
Schedule: None			
Technical: None			
(U) C. Other Program Funding Summary (\$ in Thousands) - Not applicable	ble		
(U) D. Schedule Profile The B-52 peculiar mission planning software development is accomplished and delivered incrementally. Each work package within a block build is treated as a m The B-52 peculiar mission planning software development with its own analysis, design, and test. The work packages are integrated with one another and with the AFMSS core. Requirements are continually development with its own analysis, design, and test. The work packages are integrated with one another and with the AFMSS core. Requirements are continually development with its own analysis, design, and test. The work packages are integrated with one another and with the AFMSS core. Requirements are continually development with its own analysis, design, and test. The work packages are integrated with one another and with the AFMSS core. Requirements are continually development with its own analysis, design, and test. The work packages are integrated with one another and with the AFMSS core. Requirements are continually development with its own analysis, design, and test. The work packages are integrated with one another and with the AFMSS core. Requirements by Feb 98. EY 1995 EY 1995 The work packages are integrated in a package with the AFMSS core. Requirements by Feb 98.	l delivered increme regrated with one a reb 98.	ntally. Each work package withi nother and with the AFMSS core FY 1997	occomplished and delivered incrementally. Each work package within a block build is treated as a minicapackages are integrated with one another and with the AFMSS core. Requirements are continually requirements by Feb 98. $\frac{FY 1996}{2}$
Ilock 2 X X X X			
Contract award Block 3 Software development Block 3 Test aircraft PDM	× × ×××	×	
d	Page 5 of 24 Pages		Exhibit R-2

RC	RDT&E PROGRAM ELEMENT/PROJECT	GRAM EL	EMENT/F	ROJECT		3REAKD	COST BREAKDOWN (R-3)	3)	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	al System D	evelopmer	ļ.		PE NUMBER ANI 0101113F	PE NUMBER AND TITLE 0101113F B-52	D TITLE B-52 Squadrons	, l			
PROJECT NO. AND NAME 4401 Air Force Mission Support System	NAME Mission Supp	ort System									
(U) A. Project Cost Breakdown (\$ in Thousands)	ost Breakdown	(\$ in Thousan	(Sp								
				FY 1995		FY 1996	FY 1997				
(U) Software development(U) System Program Office(U) OC-ALC/LH Program(U) Total	Software development System Program Office support OC-ALC/LH Program Depot Maintenance Total	t Aaintenance			0 0 0	2,701 100 0 2,801	2,119 100 3,288 5,662				
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	equisition Histor	ry and Planni	ng Information	ı (\$ in Thousa	(spu						. <u>—</u>
Performing Organizations:	nizations:										
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations Oklahoma ALC/LAS organic	ent Organizations organic	ω I		5,775	0	0	2,701	2,119	955	5,775	
Support and Management Organizations OKC ALC/LH organic OKC ALC/LH organic	gement Organiza organic organic	tions		200 3,288	0	0	100	100 3288	n/a	3,488	
Test and Evaluation Organizations OO-ALC/LIRC compatibility USAFAWC/28 flight testing TESTS organic funds	n Organizations compatibility flight testing organic funds										
				Pa	Page 6 of 24 Pages	iges			Exhibit R-3	R-3	
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RD	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	FION SE	IEET (R	-2 Exhil	oit)		DATE	March 1996	9
BUDGET ACTIVITY 7 - Operational Sy	вирдет астіvіту 7 - Operational System Development			PE NU 010	PE NUMBER AND TITLE 0101113F B-52	D TITLE B-52 Squadrons	drons				
PROJECT NO. AND NAME 4370 Advanced Weapons Integration	ipons Integration										
COST	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	Cost to Complete	Total Cost
4370 Advanced Weapons Integration	Integration	0	3,742	0	0	0	0	0	0	0	3,742
(U) A. Mission Description and Budget Ite. The requirement exists for the integration of n Dispenser (WCMD), Joint Direct Attack Mundesignated as the bomber test platform for WC complete understanding of the program and it elements for weapons integration on the B-52.	(U) A. Mission Description and Budget Item Justification The requirement exists for the integration of near precision and precision guided MIL-STD 1760 weapons on the B-52. This includes the Wind Corrected Munitions Dispenser (WCMD), Joint Direct Attack Munition (JDAM), Joint Stand-off Weapon (JSOW) and the Joint Air-to-Surface Stand-off Missile (JASSM). The B-52 is designated as the bomber test platform for WCMD, JDAM, and JASSM with the objective of meeting aircraft integration and weapon testing requirements. To provide complete understanding of the program and its funding, the following information will reflect the money received from the WCMD, JDAM, and JASSM program elements for weapons integration on the B-52.	stification recision and (JDAM), Joi JDAM, and Jing, the foll	precision gu nt Stand-off JASSM wit owing infor	nided MIL-S' Weapon (JS h the objecti nation will 1	TD 1760 w OW) and th ve of meetir reflect the m	eapons on the Joint Air-t g aircraft in noney receive	e B-52. Thi o-Surface St tegration an ed from the V	s includes th and-off Mis d weapon te WCMD, JD,	ie Wind Corrisile (JASSM sting require AM, and JAS	rected Muniti). The B-52 ments. To p SSM program	ions is rovide t
(U) <u>FY 1995</u> - (U) \$0	Total										
(U) <u>FY 1996</u> - (U) \$3,742 - (U) \$3,742	Software/hardware requirements Total	rements									
(U) <u>FY 1997</u> - (U) \$0	Total										
				Page 7 of 24 Pages	24 Pages				Exhibit R-2	1-2	

RDT&E BUDGET ITEM JUS	STIFICATI	ON SHE	ET (R-	TIFICATION SHEET (R-2 Exhibit)		DATE March 1996	96
BUDGET ACTIVITY 7 - Operational System Development		PE NUM 0101	PE NUMBER AND TITLE 0101113F B-52	O101113F B-52 Squadrons	ons		
PROJECT NO. AND NAME 4370 Advanced Weapons Integration							
(U) B. Program Change Summary (\$ in Thousands)							
 (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value (U) Changes to Current Budget Year 	FY 1995 0 0 0	FY 1996 3,977 3,900 -158		FY 1997 0 0 0 0	Total Cost 3,900 3,900 -158		
	0	3,	3,742	0	3,742		
(U) Change Summary Explanation: Funding: -\$158K Undistributed Congressional Reductions	ductions						
Schedule: None							······································
Technical: None							
(U) C. Other Program Funding Summary (\$ in Thousands)	~						
(U) RDT&E (WCMD - PE 27600F) 2,250 (U) RDT&E (JDAM - PE 27583F) 2,650 (U) RDT&E (JASSM - PE 27160F) 0 (U) Aircraft Procurement (PE 11113F) 0 (U) Weapon Procurement (PE 27600F) 0	FY 1996 4,300 4,500 2,000 0	1997 3,500 6,500 8,500 4,600	To Compl 11/a 10,900 11,400 206,757	Total Cost 10,050 13,650 21,400 16,000 206,757			
	P	Page 8 of 24 Pages	Pages			Exhibit R-2	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	里上		STIF	CAT	NO	HEE	T (R-2	Exh	ibit)		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	ment				문 0	PE NUMBER AN 0101113F	ليسا	E 2 Sq) τιτ∟Ε B-52 Squadrons				
PROJECT NO. AND NAME 4370 Advanced Weapons Integration													
(U) D. Schedule Profile													
	П	FY 1995 2 3	3	4		FY 1996 2 3	3 4		$\frac{\text{FY } 1997}{2}$	3 3	4		
	×××	×××	×××	×××	>	>	>						
(U) Test planning (U) Technical data development	<	< × ×	< ×	<×	< ×	< × ×	< ×	×					
	××	:× ×	××	××	××	! × ×		×					
	×	×	×	×	þ	;		5					
(U) Software/hardware Keq D1&E (U) Test planning (T) Technical data develonment	×	×	×	< ×	< ×	< ×		< × ×					
				×	×	\times	×××	××					
(U) A. Project Cost Breakdown (\$ in Thousands)	onsands)										•		
				FY 1995	1995		FY 1996	놴	FY 1997				H
(U) Software/hardware requirements (U) Total					0 0		3,742 3,742		0 0				
					Page 9	Page 9 of 24 Pages	səğı				EX	Exhibit R-2	

RE	RDT&E PROGRAM ELEMENT/P	GRAM EL	EMENT/F	ROJECT	ROJECT COST BREAKDOWN (R-3)	REAKD(JWN (R-	3)	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	ıal System D	evelopmen	it		PE NUMBEI 010111	PE NUMBER AND TITLE 0101113F B-52 S	PE NUMBER AND TITLE 0101113F B-52 Squadrons			
PROJECT NO. AND NAME 4370 Advanced Weapons Integration	NAME d Weapons Int e	gration								
(U) B. Budget Acquisition History and Planning Information	cquisition Histor	ry and Plannin	g Information	ı (\$ in Thousands)	(spui					
Performing Organizations:	mizations:									
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to <u>FY 1995</u>	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Product Development Organizations Boeing Space and Defense Group CPFF Wichita KS	ient Organizations CPFF	ω	3,742	0	0	3,742	0	. 0	n/a	3,742
Support and Management Organizations	gement Organiza	tions								
Test and Evaluation Organizations	n Organizations									
				Pa	Page 10 of 24 Pages	ges			Exhibit R-3	6-3
					1169					
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RDT8	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SUL ME	TIFICAT	IS NOI	IEET (R	-2 Exhit)ic		DATE	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development	em Development	·		PE NU 010	PE NUMBER AND TITLE 0101113F B-52	ΣΤΙΤ∟Ε B-52 Squadrons	drons				
PROJECT NO. AND NAME 4371 Global Positioning System TACAN Emulation	g System TACAN En	nulation									
COST (\$ In	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	Cost to Complete	Total Cost
4371 Global Positioning System TACAN Emulation	n TACAN Emulation	0	9,085	0	0	0	0	0	0	0	9,085
(U) A. Mission Description and Budget Item Justification GPS TACAN Emulation includes installation of a Control Display Unit (CDU) at the pilot and copilot stations and the integration of current TACAN capabilities into the on-board GPS system. The TACAN Replacement System (TRS) will satisfy current TACAN emulation requirements directed by Congressional mandate and provide an architecture to expand/increase navigational capabilities/requirements planned by FAA and IOAC bodies.	on and Budget Item Jus Sludes installation of a C TACAN Replacement S ase navigational capabil	tification control Displ ystem (TRS) ities/require	ay Unit (CD will satisfy nents plann	(U) at the pi current TA ed by FAA	lot and copil CAN emula and IOAC b	lot stations a tion requiren odies.	nd the integ nents directe	ration of cu	rrent TACA) essional mar	N capabilitie ndate and pro	s into the vvide an
(U) <u>FY 1995</u> - (U) \$0 N	No activity										
(U) FY 1996 - (U) \$1,400 Sy - (U) \$2,00 Pt - (U) \$3,300 Ft - (U) \$3,300 Ft - (U) \$2,000 Ft - (U) \$2,000 Tt - (U) \$85 C	System Requirement Review completion Preliminary Design Review completion Fabrication of lab demonstration system Fabrication of system mock-up Fabrication of prototype unit Critical Design Review Test and Evaluation	iew completi w completio stration syste ck-up mit	u u								
(U) <u>FY 1997</u> - (U) \$0 N	No activity										
				Page 11 of 24 Pages	24 Pages				Exhibit R-2	3-2	_
				1170	0						

RDT&E BUDGET ITEM JUS	TIFICATIO	N SHEET	TIFICATION SHEET (R-2 Exhibit)	(t)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0101113F B-52	PE NUMBER AND TITLE 0101113F B-52 Squadrons	rons	
PROJECT NO. AND NAME 4371 Global Positioning System TACAN Emulation					
(U) B. Program Change Summary (\$\sin Thousands)					
				Total	
	FY 1995	FY 1996	FY 1997	Cost	
(U) Previous President's Budget	0	9,545	0	9,545	
(U) Appropriated Value	0	9,360	0	9,360	
(U) Adjustments to Appr Value (Undistr Cong Reductions)	0	-275	0	-275	
(U) Changes to Current Budget Year	0	0	0	0	
(U) Current Budget Submit/President's Budget	0	9,085	0	9,085	
(U) Change Summary Explanation: Funding: \$185 taken in FY96 for Undistributed Con	gressional Reductions.	ctions.			

additional aircraft to receive NAVSTAR GPS provoked re-design of key Group B LRUs. The TRS new start provided an opportunity to combine Schedule: Schedule changes were necessary to provide concurrent R&D with GPS Line-Replaceable-Units (LRU) redesign effort. The requirement for 19 instead of designing and fielding two separate systems (GPS and TRS), the software and hardware requirements will be integrated. Reducing the two efforts, reducing additional LRUs originally planned for TRS and incorporating requirements into a single, integrated design. Thus, engineering time and independent costs associated with each program.

Technical: Technical changes include eliminating the requirement for a separate Interface Unit for TACAN and integrating TACAN system requirements in the GPS Interface Unit, currently installed on NAVSTAR GPS equipped aircraft. This also eliminates the requirement for a Signal Data Converter to interface the GPS and TRS. The majority of TRS program requirements will affect software integration. The hardware requirements are essentially CDUs at the pilot and copilot positions and associated Group A necessary for installation.

(U) C. Other Program Funding Summary (\$\sqrt{s}\$ in Thousands)

Compl	28,500 33,300
FY 1997	4,800
FY 1996	0
FY 1995	0
*** *** *** *** *** *** ** **	(U) Aircraft Procurement (PE 11113F)

Total

T₀

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-2 Exhibit)	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0101113F B-52 Squadrons	
PROJECT NO. AND NAME 4371 Global Positioning System TACAN Emulation		
(U) D. Schedule Profile		
1995	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
(U) Contract award (U) Human resource interface on X X		
equipment placement (U) System Requirement Review X		
documentation Preliminary Design Review		
(U) Fabrication of upgraded development X X X at contractor support facilities	×	
(U) Development of prototype unit (U) Ground/flight testing	x x x x	
		a
	Page 13 of 24 Pages Exhibit R-2	t R-2

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ROJECT CO	ST BREAK	DOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE 0	PE NUMBER AND TITLE 0101113F B-52) TITLE B-52 Squadrons	
PROJECT NO. AND NAME 4371 Global Positioning System TACAN Emulation				
(U) A. Project Cost Breakdown (\$\frac{1}{2}\) in Thousands)			,	
	FY 1995	FY 1996	$\overline{\text{FY } 1997}$	
(U) System Requirement Review completion	0	1,400	0	
	0	200	0	
(U) Fabrication of lab demonstration system	0	1,900	0	
	0	3,300	0	
(U) Fabrication of prototype unit	0 0	2,000	0 0	
		006		
(C) Lest and evaluation		007	> <	
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		27 4 4 5 20		





RDT&E PROGRAM ELEMENT/	GRAM EL	EMENT/P	PROJECT	r COST BREAKDOWN (R-3)	REAKDO	WN (R-	<u></u>	DATE	March 1996	
вироет Асті∨іт∀ 7 - Operational System Development	Developmen			PE NUMBER AND TITLE 0101113F B-52	AND TITLE	ΣΤΙΤ∟Ε B-52 Squadrons				
PROJECT NO. AND NAME 4371 Global Positioning System TACAN Emulation	stem TACAN E	mulation								
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	ory and Plannir	ng Information	(\$ in Thous	ands)						
Performing Organizations:										
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle	e Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations Boeing Space and FFP Defense Group Wichita, KS	ons Feb 96	8,935		0	0	8,935	0	n/a	8,935	
Support and Management Organizations OKC ALC/LH WR ALC/LKN OO-ALC/LR	<u>izations</u>		50 50 50	000	000	50 50 50	0 0 0	n/a n/a n/a	50 50 50	
Test and Evaluation Organizations	<u>sı</u>									**
(U) B. Budget Acquisition History and Planning Information Continued (\$\section\$ in Thousands)	tory and Planni	ng Information	n Continued	(\$ in Thousand	(S)					
Government Furnished Property: None	ty: None		***							-
									·	
			I	Page 15 of 24 Pages	ages			Exhibit R-3	R-3	

R	RDT&E BUDGET ITEM JUS	EM JUS	TIFICA	TION SE	HEET (R	TIFICATION SHEET (R-2 Exhibit)	bit)		DATE	March 1996	و
BUDGET ACTIVITY 7 - Operational S	вирсет аститу 7 - Operational System Development			PE NL 010	PE NUMBER AND TITLE 0101113F B-52	D TITLE B-52 Squadrons	adrons				
PROJECT NO. AND NAME 4402 Electronic Cou	ROJECT NO. AND NAME 4402 Electronic Countermeasures Improvement	ment									
COST	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	Cost to Complete	Total Cost
4402 Electronic Counterm	Electronic Countermeasures Improvement	0	0	4,921	0	0	0	0	0	0	4,921
(U) A. Mission Descri The electronic countern provides for an increase ECM suite and develops circuit cards are replace	(U) A. <u>Mission Description and Budget Item Justification</u> The electronic countermeasures of the B-52 ALQ-172 ECM suite must be improved to cover a requirement identified during DESERT STORM. The improvement provides for an increased memory capability to handle advanced threats as well as correcting a coverage capability problem. The project adds a third ALQ-172 to the ECM suite and develops the new display required by the addition of the third system. The modification also improves two common core Line-Replaceable-Units. Normal circuit cards are replaced with circuit cards holding erasable PROMs and gate array modules. Memory is increased 400% and Mean-Time-Between-Failure is increased	stification 72 ECM sui dle advancec y the additio	e must be ir I threats as v n of the thir OMs and ga	nproved to covell as corrected system. The array modes	over a requi cting a cove: he modifical	rement ident rage capabili ion also imp ory is increas	e must be improved to cover a requirement identified during DESERT STORM. The improvement threats as well as correcting a coverage capability problem. The project adds a third ALQ-172 to the 1 of the third system. The modification also improves two common core Line-Replaceable-Units. No DMs and gate array modules. Memory is increased 400% and Mean-Time-Between-Failure is increas	DESERT S The project mmon core d Mean-Tin	TORM. The adds a third Line-Replac	e improveme I ALQ-172 t ceable-Units. Failure is in	nt o the Normal creased
(U) <u>FY 1995</u> - (U) \$0	No activity										
(U) <u>FY 1996</u> - (U) \$0	No activity										
(U) <u>FY 1997</u> - (U) \$150 - (U) \$300 - (U) \$4,371 - (U) \$100 - (U) \$100	System Requirement Review Fabrication of lab mock-up Developmental kit fabrication System Program Office support Total	iew uport									
				Page 16 of 24 Pages	24 Pages		į		Exhibit R-2	-5	

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ROTRE BUNGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FICATION	SHEET (R.	2 Exhibit		DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0101113F B-52 Squadrons	TLE -52 Squadr	ons	
PROJECT NO. AND NAME 4402 Electronic Countermeasures Improvement					
(U) B. Program Change Summary (S in Thousands)					
	FY 1995	FY 1996	FY 1997	Total Cost	
(U) Previous President's Budget (U) Appropriated Value	0 0	0 0	5,071 0	5,071	
(U) Adjustments to Appropriated Value(U) Changes to Current Budget Year(U) Current Budget Submit/President's Budget	000	000	-150 0 4,921	-150 0 4,921	
(U) Change Summary Explanation: Funding: None					
Schedule: None					
Technical: None					
(U) C. Other Program Funding Summary (\$ in Thousands)					
(U) Aircraft Procurement (PE 11113F) $\frac{\text{FY } 1995}{0}$	FY 1996 FY 1997 0 0	To Compl 0 114,600	Total <u>Cost</u> 114,600		
(U) D. Schedule Profile					
(U) Contract award (U) Kit proof (U) System Requirement Review	4 1 X	FY 1996 2 3	4 XX	$\frac{\text{FY } 1997}{2}$	4
	Page 1	Page 17 of 24 Pages			Exhibit R-2
		1176			

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	PROJECT CO	ST BREAK	DOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE 1	PE NUMBER AND TITLE 0101113F B-52	TITLE B-52 Squadrons	
PROJECT NO. AND NAME 4402 Electronic Countermeasures Improvement				
(U) A. Project Cost Breakdown (\$ in Thousands)				
	FY 1995	FY 1996	$\overline{\text{FY }1997}$	
(U) System Requirement Review (U) Mock-up fabrication	00	0	150	
(U) Developmental kit proof (U) System Program Office support	000	000	4,371	
(U) Total	0	0	4,921	
	ia			
	€ ca.			
	Page 18 o	Page 18 of 24 Pages		Exhibit R-3
	7711	7		
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)			



RDT	SE PROG	RDT&E PROGRAM ELEMENT/PROJECT	EMENT/P	ROJECT		COST BREAKDOWN (R-3)	WN (R-	3)	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	System De	velopmen			PE NUMBER AN 0101113F) ΤΙΤ∟Ε B-52 Squadrons			
PROJECT NO. AND NAME 4402 Electronic Countermeasures Improvement	ाह ountermeas।	ures Improve	ment							
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	isition Histor	y and Plannin	g Information	(\$ in Thousa	(spu					
Performing Organizations:	ations:									
Contractor or Government Merforming or Activity	Contract Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Product Development Organizations Boeing Space and FFP Defense Group	nt Organizations FFP	oct 96	4,521		0	0	0	4,521	n/a	4,521
	FFP	Oct 96	300					300	n/a	300
Support and Management Organizations OKC ALC/LH WR ALC/LKN	nent Organiza	tions		50 .	0 0	0 0	0 0	50	n/a n/a	50 50
Test and Evaluation <u>Organizations</u> 419th FLTS organic Edwards AFB, CA	Organizations organic									
(U) B. Budget Acquisition History and Planning Information Continued (\$\sin Thousands)	uisition Histor	ry and Planni	ng Informatio	n Continued	(\$ in Thousand	<u>(s)</u>				
Government Furnished Property: None	ned Property:	None								
				Pa	Page 19 of 24 Pages	səsı			Exhibit R-3	۶- ۲-3

RDT&E BUDGET ITEM JUSTIFICATION	STIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0101113F B-52 Squadrons	
PROJECT NO. AND NAME		

4493 B-61 Mod 11 Flight Tests

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	Cost to Complete	Total Cost
4493 B-61 Mod 11 Flight Tests	0	0	209	0	0	0	0	0	4,518	5,125

(U) A. Mission Description and Budget Item Justification

documented requirement for the AGM-130 effort, and has not funded this effort, the \$4.5M added by Congress in FY96 can be used to finance FY1997 B-52 development strategic bomb accomplish the mission requirements of the replaced weapon. Modification of an existing weapon is less expensive than the cost to develop a new weapon program requirements." Therefore \$4.5M is deleted from the FY1997 budget. The money was taken from modification 4493 "B-61 Mod 11 Flight Tests. The following Nuclear Posture Review and directed by Presidential Decision Directive-30. Congress was notified during the second quarter of 1995, of the Department of Defense, and The program involves development and testing of a modified nuclear weapon on B-52 operational aircraft. Replacement of a strategic weapon was recommended by the from "scratch." Flight testing by the 419th FLTS, Edwards AFB, CA is required to certify the modified weapon mass and physics properties are the same as the Mod 7 the Department of Energy intent to modify an existing weapon to provide a replacement option. Modifications (made by the Department of Energy) to the B-61 Mod 7 device. Program Budget Decision (PBD) 632 "Congressional Adjustments to Air Force Investment Appropriations stated that "since the Air Force does not have a funding stream reflects the required program funding. Only flight testing of the DOE provided weapons can be performed with the remaining \$607K.

(U) FY 1995

No activity (D)

(U) FY 1996

No activity 0\$ (D)

FY 1997 3

Aerodynamic Analysis (U) \$51

Flight testing Total (U) \$556 (U) \$607 (U) B. Program Change Summary (\$ in Thousands)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R	-2 Exhibit)		DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0101113F B-52	ो गा⊤∟E B-52 Squadrons	ns		
PROJECT NO. AND NAME 4493 B-61 Mod 11 Flight Tests					
(U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value (U) Changes to Current Year Budget (U) Current Budget Submit/President's Budget	FY 1996 0 0 0 0 0	FY 1997 5,125 0 0 -4,518 607	Total Cost 5,125 0 0 -4,518 607		
(U) Change Summary Explanation: Funding: Funding realigned to satisfy approved military requirements. Schedule: None	nts.				
Technical: None (U) C. Other Program Funding Summary (\$ in Thousands) - Not applicable	a				
(U) B. Schedule Profile FY 1995 1 2 3 4 (U) Aerodynamic Analysis (U) Flight tests with test drops	FY 1996 1 2 3 X X	4 1	FY 1997 2 3 4		
Pc	Page 21 of 24 Pages			Exhibit R-2	t R-2

	RDT&E BUDGET ITEM JUS	UDGETI	FEM JUS	TIFICATION SHEET (R-2 Exhibit)	ON SHEE	T (R-2 E	xhibit)		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	ıal System Dı	evelopmen	ıt		PE NUMBER ANI 0101113F	PE NUMBER AND TITLE 0101113F B-52 S	D TITLE B-52 Squadrons				
PROJECT NO. AND NAME 4493 B-61 Mod 11 F	PROJECT NO. AND NAME 4493 B-61 Mod 11 Flight Tests	. v									
(U) A. Project Cost Breakdown (\$ in Thousands):	ost Breakdown (\$ in Thousand	<u>is):</u>								
ود فيد المستحدد				FY 1995		FY 1996	FY 1997				
(U) Aerodynamic Analysis(U) Flight tests with test drops(U) Total	Analysis ith test drops				0 0 0	0 0 0	51 556 607				
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	cquisition Histor	y and Plannin	<u>g Information</u>	(\$ in Thousa	(spu						
Performing Organizations:	mizations:										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations DOE organic	nent Organizations organic	rol .	51		0	0	0	51	3,067	3,118	
Test and Evaluation Organizations 419th FLTS Edwards AFB, CA	on Organizations		556		0	0	0	556	n/a	556	
(U) B. Budget Acquisition History and Planning Information	cquisition Histor	y and Plannin	g Information	Continued (\$ in Thousands)	in Thousand	<u>(s</u>					
Government Furnished Property: None	iished Property:	None									



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ITEM JUS	TIFICAT	IS NOI	IEET (R	-2 Exhit	oit)		DATE N	March 1996	60
BUDGET ACTIVITY 7 - Operational System Development	int		PE NU 010	PE NUMBER AND TITLE 0101113F B-52	D TITLE B-52 Squadrons	Idrons				
PROJECT NO. AND NAME 4494 AGM-130 Integration										
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	Cost to Complete	Total Cost
4494 AGM-130 Integration	0	4,377	0	0	0	0	0	0	0	4,377
(U) A. Mission Description and Budget Item Justification Congressional language inserted funding for the Air Force to integrate the AGM-130 standoff attack missile on the B-52 aircraft with a common pylon modification. Hq ACC/DRP established that ACC does not have a requirement for the AGM-130 missile on the B-52.	Justification Air Force to in requirement fo	ntegrate the AGM-130 standoff attack for the AGM-130 missile on the B-52.	GM-130 sta 130 missile	indoff attack on the B-52.	k missile on	the B-52 air	craft with a	common pyl	on modificat	ion. Hq
(U) <u>FY 1995</u> - (U) \$0 No activity										
(U) <u>FY 1996</u> – (U) \$4,377 ACC/DRP has no requirement for the AGM-130 missile. – (U) \$4,377 Total	uirement for th	e AGM-130	missile. The	s money wil	l be realigne	d to satisfy a	approved mi	The money will be realigned to satisfy approved military requirements.	ements.	
(U) <u>FY 1997</u> - (U) \$0 No activity										
(U) B. Program Change Summary (\$ in Thousands)	(spues)									
 (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appr Value (Undistr Cong Reductions) (U) Changes to Current Budget Year (U) Current Budget Submit/President's Budget 	Reductions)	FY 1995 0 0 0 0 0		FY 1996 0 4,500 -123 -123 4,377	FY 1997 0 0 0 0 0	501 4. J. J.	Total Cost 0 4,500 -123 -123			
			Page 23 of 24 Pages	24 Pages				Exhibit R-2	3-2	

March 1996 DATE 0101113F B-52 Squadrons RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 7 - Operational System Development 4494 AGM-130 Integration PROJECT NO. AND NAME **BUDGET ACTIVITY**

(U) Change Summary Explanation:
Funding: Congressional Appropriations bill added \$4.5 million for integration of the AGM-130 missile on the B-52H. The funds will realigned to satisfy approved military requirements.

Schedule: None

Technical: None

- (U) C. Other Program Funding Summary (\$ in Thousands) Not applicable
- (U) D. Schedule Profile Not applicable
- (U) A. Project Cost Breakdown (\$ in Thousands)

(U) not applicable

FY 1995

FY 1996

FY 1997

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION SE	HEET (R	-2 Exhit	oit)		DATE M	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development		PE NU 010	PE NUMBER AND TITLE 0101120F Advanced Cruise Missile	⊓∟E dvanced	Cruise	Missile			
PROJECT NO. AND NAME 3844 (U) Advanced Cruise Missile									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3844 (U) Advanced Cruise Missile	0	6,792	1,165	0	0	0	0	0	7,957

(U) A. Mission Description and Budget Item Justification

W80 warhead, it is designed to evade air and ground-based defenses in order to strike heavily defended, hardened targets at any location within any potential enemy's territory. The ACM is designed for B-52H external carriage. Missile procurement is complete. FY 96, FY 97 and FY98 funds are required to complete the last 15% The ACM is a low-observable, air-launched, strategic missile with significant improvements over the ALCM-B in range, accuracy, and survivability. Armed with a of mission support development work. This program is in budget activity 7, Operational System Development, because the program effort involves depot development.

- (U) FY 1996 (\$ in Thousands):
- (U) \$2,197 Complete Sensor Depot Development
- (U) \$1,539 Continue Software Depot Development
- (U) \$2,064 Complete Guidance Depot Development
 - (U) \$ 992 Mission Support/Other
 - (U) \$6,792 Total
- (U) FY 1997 (\$ in Thousands):
- (U) \$1,165 Complete Software Depot Development
 - (U) \$1,165 Total

Page 1 of 6 Pages

RDT&E BUDGET ITEM JUS	TIFICATIO	N SHEET	IFICATION SHEET (R-2 Exhibit)		DATE March 1996
вирбет Астіміту 7 - Operational System Development		PE NUMBER AND TITLE 0101120F Adva	PE NUMBER AND TITLE 0101120F Advanced Cruise Missile	ruise Missile	
PROJECT NO. AND NAME 3844 (U) Advanced Cruise Missile				A VAII	
(U) B. Program Change Summary (\$ in Thousands)					
(U) Appropriated Value	FY 1995 0	FY 1996 7,060 7,060	FY 1997	Total <u>Cost</u>	
 (U) Adjustments to Appropriated Value a. Congressional General Reductions b. SBIR c. Onnibus or Other Above Threshold Reprogram 		(137) (76) (55)			
 d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 95 PB (U) Current Budget Submit/President's Budget 	0	6,766	1,165**	7,957	
(U) Change Summary Explanation:					
Funding: The FY95 President's Budget did not contain program funding pending decision on depot support strategy. FY96/97 funding is required to complete development of sensor, guidance, and flight control software repair capabilities at the depot. FY97 money to complete software depot development (\$1.2M) was transferred from FY97 Procurement (3020) Air Vehicles and Spares accounts.	program funding ware repair capab and Spares acco	pending decisio vilities at the dep vunts.	n on depot support ot. FY97 money	strategy. FY96/97 to complete softwar	program funding pending decision on depot support strategy. FY96/97 funding is required to complete ware repair capabilities at the depot. FY97 money to complete software depot development (\$1.2M) was and Spares accounts.
** \$1.2M minus \$35,000 inflation reduction					
Schedule: None Technical: None					

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	IFICAT	INS NOI	EET (R-	2 Exhib	Ē		DATE Ma	March 1996
ВИВСЕТ АСТІИТУ 7 - Operational System Development			PE NUN 0101	PE NUMBER AND TITLE 0101120F Advanced Cruise Missile	rLE Ivanced	Cruise N	lissile		
PROJECT NO. AND NAME 3844 (U) Advanced Cruise Missile									
(U) C. Other Program Funding Summary (\$ in Thousands)	Fhousands)								
(I) Weanon Procurement (3020)	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	To	Total <u>Cost</u>
(U) Budget Activity (U) 2. Air Vehicles (U) 4. Spares	0 1,293	1,822 951	1,236	852 770	1,031 716	1,084	2,086		8,111 5,312
(U) Operations and Maintenance (3400)	18,244	14,286	16,462	16,394	17,571	17,420	17,107		117,484
(U) Related RDT&E (3600): None									
(U) D. Schedule Profile									
	FY 1995 2 3	4	1 2 图	FY 1996 2 3	4	FY 1997 2 3	3 4		
(U) Contract Milestones									
(U) Weapon System Support (WSS) Award									
(U) WSS Option 1 Award									
(U) Test Instrumentation Kit Award	×								
(U) Other Program Events									
(U) Depot Activation							×		,
			Page 3 of 6 Pages	. Pages				Exhibit R-2	0

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BREAKE	OWN (R-3)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0101120F Adva	TITLE Advanced Cruise Missile	
PROJECT NO. AND NAME 3844 (U) Advanced Cruise Missile			
(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u>			
(U) Depot Activation	<u>5 FY 1996</u>	FY 1997	
(U) Sensor Depot Test/Repair(U) Guidance Depot Test/Repair(U) Software Compiler Rehost(U) Surveillance	2,197 2,064 1,539	800	
(U) Operational Test Launch Payloads			
(U) Redesign Test Payloads			
(U) Other Efforts			
(U) Support Contracts	517	296	
(U) Mission Support	475	690	
(U) Total	6,792	1,165	
	Duna A of & Dunas		, C
7.7	ge 4 ol o Fages		EXNIBIT K-3





RD	RDT&E PROGRAM ELEMENT	RAM ELE		PROJECT	COST BREAKDOWN (R-3)	REAKDO	WN (R-	S	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	I System De	•velopment			PE NUMBER AND TITLE 0101120F Adva	AND TITLE F Advan	TITLE Advanced Cruise Missile	e Missile		
PROJECT NO. AND NAME 3844 (U) Advanced Cruise Missile	AME Iced Cruise Mi	ssile								
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	quisition Histor	y and Planning	<u>Information</u>	(\$ in Thousan	(spi					
(U) Performing Organizations:	rganizations:									
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
(U) Product Development Organizations	pment Organiza	tions								
Hughes MSC Tucson, AZ	SS/FPIF	May 92	16,914	16,914	15,946		1,764			17,710
Kearfott Wayne, NJ	SS/FFP	Aug 93	8,077	8,077	6,200		1,877			8,077
AGMC	PO	Oct 94/ Sep 96			3,361		620			3,981
OC-ALC	PO	Oct 94/ Dec 96			3,135		1,539	800		5,474
SA-ALC	PO	Oct 94			25					25
Miscellaneous					6,907					6,907
				P_{ℓ}	Page 5 of 6 Pages	es			Exhibit R-3	R-3

RDT&E PRO	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	T COST BRE	KDOW	N (R-3)	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	Development	PE NUMBER AND TITLE 0101120F Advanced Cruise Missile	riτιε \dvance c	Cruise Mi	ssile	
PROJECT NO. AND NAME 3844 (U) Advanced Cruise Missile	fissile					
(U) Support and Management Organizations	anizations					
Logistics Time/ CAAS Material	Jan 95	1,943		262	118	2,323
Miscellaneous CAAS	Dec 94	599		255	178	1,032
DSO Mission Support		3,165		475	69	3,709
(U) Test and Evaluation Organizations: Not Applicable	<u>ions</u> : Not Applicable					
(U) Government Furnished Property: Not Applicable	erty: Not Applicable					
(U) Subtotal Product Development(U) Subtotal Support and Management(U) Subtotal Test and Evaluation	nent	35,574 5,707	5,800 992	800 365	42,	42,174 7,064
(U) Total Project		41,281	6,792	1,165	49,238	238
		Page 6 of 6 Pages			EX	Exhibit R-3





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION SE	IEET (R	-2 Exhil	oit)		DATE M	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development		PE NU 010	PE NUMBER AND TITLE 0102325F Joint Surveillance System	TTLE oint Surv	reillance	System			3
			:						
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	2,661	4,582	13,239	15,824	19,927	15,582	4,858	Continuing	ТВD
2976 Joint Surveillance System-Connectivity (JSS-C)	662	637	611	633	638	681	691	Continuing	ТВD
2996 FAA/AF Radar Replacement (FARR)	1,999	3,945	12,628	15,191	19,289	14,901	4,167	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

solve an operational deficiency in the existing operational system and is post Milestone Three. The FARR portion of this program element also falls under Budget Activity C4I decisions. The outdated technology has become increasingly difficult and costly to maintain. The FAA/Air Force Radar Replacement (FARR) program will replace portion of this PE falls under Budget Activity 7 research category 6.7 Operational System Development, as it is a system being deployed to the operational community to The Joint Surveillance System (JSS) provides command, control and communications (C3) capability in support of NORAD's Atmospheric Tactical Warning and Attack exchange, and employ air surveillance data from current sensor systems. In some cases, it has exceeded processing and displaying capacity, thus contributing to delayed (R/SOCC) Modernization program will provide a modernized C4I system with enhanced capability to integrate data from existing and future civil and military defense Assessment (ATW/AA) air sovereignty, and air defense requirements. The JSS Connectivity (JSS-C) program provides improvements to this capability by integrating 40 existing JSS radars with solid-state, three-dimensional ARSR-4 radars to improve mission performance and reduce operation and maintenance costs. The JSS-C surveillance systems into a comprehensive recognized air picture to enhance NORAD's capability to conduct peacetime air sovereignty, transition and conventional new sensor data and enhancing communications capabilities via the Advance Interface Control Unit (AICU). The Region and Sector Operations Control Center warfare in the event of aggression toward the North American Continent. The current system has reached saturation in its capability to receive, process, display, 7 Operational System Development as it has received approval for production.

Page 1 of 12 Pages

Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION	JSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0102325F Joint Surveillance System	

(U) Acquisition Strategy:

Management for the R/SOCC Modernization is by ESC, AFMC, Hanscom AFB, MA. The R/SOCC Modernization acquisition is currently being refined in preparation of September 1988) to FAA/AF National Agreement (NAT) 711. The FAA and the Air Force have established a joint Program Office at HQ, FAA, Washington, DC for this Department of Transportation, Cambridge, MA provides the AICU with flight plan information from FAA sources. The Federal Aviation Administration (FAA) is the lead acquisition agency for the FAA/AF Radar Replacement Program in accordance with a 19 November 1984 sub-agreement (as amended by Amendment 1, dated 1 Center, Air Force Materiel Command, Hanscom AFB, MA. The prime contractor for the AICU is TRW, Aurora, CO. Enhanced Traffic Management System (ETMS) the MS II decision. Development of the system will be executed through full and open competition. Management of the JSS Connectivity is by the Electronic Systems procurement. Westinghouse Corporation, Linthicum, MD is the prime contractor for the FARR program.

(U) B. Program Change Summary (\$ in Thousands)

Total	Cost	TBD										TBD
	FY 1997	4,400								339	8,500	13,239
	FY 1996	4,711	4,711		-129							4,582
	FY 1995	2,719	2,770		-51	-1	-57					2,661
		(U) Previous President's Budget	(U) Appropriated Value	(U) Adjustments to Appropriated Value	a. General Congressional Reduction	b. Below Threshold Reprogramming	c. SBIR	d. Omnibus and Ahove Threshold Reprogramming	(U) Adjustments to the Budget since FY96 PB	a. General POM Reductions/increases	b. R/SOCC Modernization	(U) Current Budget Submit

(U) Change Summary Explanation:

Funding:

(FY97) \$8.5 million addition for R/SOCC modernization

Schedule: None

Technical: None

Page 2 of 12 Pages





RDT&E BUDGET ITEM JUS	EM JUST	TFICAT	ION SH	TIFICATION SHEET (R-2 Exhibit)	2 Exhib	it)		рате Ма	March 1996	
вирсет Астіvіту 7 - Operational System Development			PE NUN 0102	PE NUMBER AND TITLE 0102325F Join	ס דודוב Joint Surveillance System	eillance	System			
(U) C. Other Program Funding Summary (\$ in Thousands)	Thousands)					,				
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	To Compl	Total Cost	
(U) Other Procurement AF Total	14,336	553	0	135	65	12,953	5,629	TBD	TBD 14 059	
Budget Activity 3, WSC 83790A	0	0	0	0	0	0	00	0	0	
Budget Activity 4, WSC 84590A Budget Activity 6, WSC 86190A	277 0	0 553	00	0 135	0	00	00	0 TBD	TBD	
R/SOCC Modernization Procurement Related RDT&E: (U) None	0	0	0	0	0	12,953	5,629	TBD	TBD	
(U) D. Schedule Profile										
	•	FY 1995		FY.		•	Y 199	•		
	-	7	4	7	ج 4		5 7	4		
(U) ECP-5 (Config Record) (U) QOT&E	×									
(U) FOT&E		×								
(U) CONUS FOC (I) Automated Air Movement Data			×	×						
System IOC										
(U) Advanced Interface Control Unit FOC				×						
(U) FARR Operational Readiness Date			>				×			
(U) KSOCC Modernization Milestone I			< .		×					
(U) R/SOCC Modernization Contract Award						×				
			Page 3 of 12 Pages	2 Pages				Exhibit R-2	2	

RDT&E BI	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICAL	IS NOI	IEET (R	-2 Exhil	bit)		DATE	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development	evelopment		PE NU 010	PE NUMBER AND TITLE 0102325F Join	Oint Surv	PE NUMBER AND TITLE O102325F Joint Surveillance System	System			
PROJECT NO. AND NAME 2976 Joint Surveillance System-Connectivity (JSS-C)	m-Connectivity (JSS-C)									
COST (\$ In Thousands)	'housands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
2976 Joint Surveillance System-Connectivity (JSS-C)	tivity (JSS-C)	662	637	611	633	638	681	691	Continuing	TBD
(U) A. Mission Description and Budget Item Justification The JSS Connectivity provides improvements to Atn control, and communications (C ³⁾ by integrating ner	Mission Description and Budget Item Justification The JSS Connectivity provides improvements to Atmospheric Tactical Warning and Attack Assessment (ATW/AA), air sovereignty, and air defense command, control, and communications (C ³⁾ by integrating new sensor data and enhancing communications capabilities.	spheric Tacti sensor data a	ical Warning nd enhancii	g and Attacl	k Assessmen cations capa	ıt (ATW/AA ıbilities.	.), air sovere	ignty, and a	ir defense co	mmand,
(U) <u>FY 1995</u> (\$ in Thousands) - (U) 244 Provided progran - (U) 281 Provided system - (U) 137 Provided system - (U) 662 Total	(\$ in Thousands) Provided program office support. Provided system engineering support. Provided system integration support for AAMDS. Total	or AAMDS.								
(U) <u>FY 1996</u> (\$ in Thousands) - (U) 50 Provide program - (U) 89 Provide system e - (U) 11 Provide system ii - (U) 280 R/SOCC Modern - (U) 207 R/SOCC Modern - (U) 637 Total	(\$ in Thousands) Provide program office support. Provide system engineering support for AAMDS. Provide system integration support for Enhanced Traffic Management System R/SOCC Modernization System Engineering Support R/SOCC Modernization Program Office Management and Technical Support Total	or AAMDS. Enhanced 7 reering Supp	raffic Mane ort tent and Tec	gement Sys thnical Supp	item (ETMS)	r AAMDS. Enhanced Traffic Management System (ETMS) in support of AAMDS. eering Support ee Management and Technical Support	of AAMDS.			
(U) <u>FY 1997</u> (\$ in Thousands) - (U) 611 R/SOCC Modern - (U) 611 Total	(\$ in Thousands) R/SOCC Modernization Program Offic Total	ce Management and Technical Support	ent and Tec	ıhnical Supț	Jort					
			1307					 	c	
		3	rage 4 of 12 rages	2 Fages				EXHIBIT R-2	7-	





RDT&E BUDGET ITEM JUST	FICATIO	N SHEET (TIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0102325F Join	PE NUMBER AND TITLE O102325F Joint Surveillance System	ance System	
PROJECT NO. AND NAME 2976 Joint Surveillance System-Connectivity (JSS-C)					
(U) B. Program Change Summary (\$ in Thousands)				Total	
(U) Appropriated Value	FY 1995 662 662	FY 1996 650 650	FY 1997 640	Cost	
(U) Adjustments to Appropriated Value a. General Congressional Reduction b. Below Threshold Reprogramming		-13			
c. SBIR (U) Adjustments to Budget Years Since FY96 PB (U) Current Budget Submit	662	637	-29 611	TBD	
(U) Change Summary Explanation: Funding: None					
Schedule: None					
Technical: None					
(U) C. Other Program Funding Summary (\$ in Thousands) Not Applicable					
	Pas	Page 5 of 12 Pages			Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	ле March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0102325F Joint Surveillance System	
PROJECT NO. AND NAME 2976 Joint Surveillance System-Connectivity (JSS-C)		
19	FY 1996 FY 19	
(U) ECP-5 (Config Record) (U) QOT&E (U) QOT&E (U) FOTR&E (U) CONUS FOC (U) Automated Air Movement Data System IOC (U) Advanced Interface Control Unit FOC (U) R/SOCC Modernization Contract Award	x x x x x x x x x x x x x x x x x x x	
Pag	Page 6 of 12 Pages	Exhibit R-2





RD	RDT&E PROGRAM ELEMENT	SRAM EL	EMENT/P	ROJEC	/PROJECT COST BREAKDOWN (R-3)	REAKDO	WN (R-3		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	System Do	evelopmen			PE NUMBER AN 0102325F	PE NUMBER AND TITLE 0102325F Joint S	ЭТІТЕ Joint Surveillance System	e Systen			
PROJECT NO. AND NAME 2976 Joint Surveillance System-Connectivity (JSS-C)	NME sillance Syste	m-Connectiv	rity (JSS-C)								
(U) A. Project Cost Breakdown (\$ in Thousands)	st Breakdown	(\$ in Thousand	<u>[8]</u>	<u>FY 1995</u>		FY 1996	FY 1997				
(U) System Enginee(U) System Enginee(U) Program Office(U) Program Office(U) Total	System Engineering Support (AICU) System Engineering Support (R/SOCC) Program Office Support (AICU) Program Office Support (R/SOCC) Total	AICU) R/SOCC) J) ICC)			418 0 244 0 662	100 280 50 207 637	0 0 0 611 611		\$		M - 1
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	quisition Histor	ry and Plannir	ng Information	ı (\$ in Thous	(ands)						
Performing Organizations:	izations:										
Contractor or Government Performing Activity	Contract Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to <u>FY 1995</u>	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations None	nt Organization	<u>is</u> None									-
Support and Management Organizations TEMS Various Ong	ement Organiza Various Contracts	ations Ongoing	(AICU)		2,601	406	89	611	Continuing	TBD	
Miscellaneous	Various	Ongoing	(AICU)		256	256	37		Continuing	TBD	
MITRE	Contracts F19628-94- C-0001	Ongoing	(R/SOCC)				291	0			
Test and Evaluation Organizations None	1 Organizations	None									
Total Project					2,857	662	637	611	Continuing	TBD	
					Page 7 of 12 Pages	iges			EXIIIDII R-3	6-1	
					1196						

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION SI	HEET (R	-2 Exhi	bit)		DATE N	March 1996	
BUDGET ACTIVITY 7 - Operational System Development		PE NI	PE NUMBER AND TITLE	IITLE Dint Cum	ogue Ilio,	Suctom			
PROJECT NO. AND NAME 2996 FAA/AF Radar Replacement (FARR)						O) stelli			
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to	Total Cost
2996 FAA/AF Radar Replacement (FARR)	1,999	3,945	12,628	15,191	19,289	14,901	4,167	4,167 Continuing	TBD
(U) A. Mission Description and Budget Item Justification The FAA/Air Force Radar Replacement (FARR) program will	vill replace 40	existing JS	Il replace 40 existing JSS radars with solid-state, three dimensional ARSR-4 radars to improve mission	h solid-state	, three dime	nsional ARS	R-4 radars t	o improve m	ission

performance and reduce operation and maintenance costs. This includes technical radar site surveys and interface engineering in preparation for system installation, test, and checkout.

(\$ in Thousands) Provided program office Contractor/Systems Engineering. Continued site preparation, radar production, installation, test and system checkout. Total (\$ in Thousands) Provide program office support. Continue test support for FARR JPO. Continue radar production, installation, test and system checkout.	I otal
(U) FY 1995 - (U) 435 - (U) 1,029 - (U) 535 - (U) 1,999 (U) FY 1996 - (U) 346 - (U) 1,252 - (U) 503 - (U) 503 - (U) 503	- (U) 3,945

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (F	(-2 Exhibit)		DATE March 1996
вироет астіміту 7 - Operational System Development	PE NUMBER AND TITLE 0102325F Joint	TITLE Joint Surveill	D TITLE Joint Surveillance System	
PROJECT NO. AND NAME 2996 FAA/AF Radar Replacement (FARR)				
 (U) FY 1997 (S in Thousands) (U) 552 Provide program office support. (U) 1,234 Continue test support for FARR Joint Program Office (JPO). (U) 286 Continue interoperability evaluations and commissioning support. (U) 1,168 Continue interoperability evaluations and commissioning support. (U) 1,176 R/SOCC Modernization System Engineering Support. (U) 650 R/SOCC Modernization Program Office Management and Technical Support (U) 650 R/SOCC Modernization Program Office Support (U) 6,437 ROCC/SOCC Modernization Prime Contact. (U) 12,628 Total 	(JPO). ing support. and Technical Sup	port		
(U) B. Program Change Summary (\$ in Thousands)			Total	
(U) Previous President's Budget 2,057 (U) Appropriated Value (U) Adjustments to Appropriated Value a. General Congressional reduction b. Below Threshold Reprogramming -1 -57	FY 1996 4,061 4,061	F <u>Y 1997</u> 3,760	Cost TBD	
ral POM Reduction/increases CC Modernization Budget Submit	-116 3,945	368 8,500 12,628	TBD	
(U) Change Summary Explanation: Funding: (FY97) \$8.5 million addition for R/SOCC modernization				
Schedule: None				
Technical: None				
<i>P6</i>	Page 9 of 12 Pages			Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	CATION SHEET (R-2 Exhibit) DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0102325F Joint Surveillance System
PROJECT NO. AND NAME 2996 FAA/AF Radar Replacement (FARR)	
(U) C. Other Program Funding Summary (\$\sqrt{s}\) in Thousands)	Not Applicable
(U) D. Schedule Profile	
1	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
(U) Operational Testing & Evaluation (U) Operational Testing & Evaluation	
(U1&E) (U) First Operational Readiness Date (I) Final Acceptance of Systems 21-26	×
(U) Final Acceptance of Systems 27-33 (U) Final Acceptance of Systems 34-40	× ×
(U) FARR Operational Readiness Date (U) R/SOCC Modernization Contract Award	×
	Page 10 of 12 Pages





RDT&E PROGRAM ELEMENT/PROJECT	COST B	REAKD(PROJECT COST BREAKDOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER ANI 0102325F	PE NUMBER AND TITLE 0102325F Joint	D TITLE Joint Surveillance System	
PROJECT NO. AND NAME 2996 FAA/AF Radar Replacement (FARR)				
(U) A. Project Cost Breakdown (\$ in Thousands)				
	FY 1995	FY 1996	FY 1997	
(U) Systems Engineering	316	644	448	
(U) Systems Engineering			1,176	
(U) Contractor Engineering Support	713	1,200	1,240	
(U) Installation/Tests	535	1,755	1,520	
(U) Program Management support	435	346	552	
(U) R/SOCC Modernization Program Management and Technical Support			605	
(U) R/SOCC Modernization Program Office Support			650	
(U) R/SOCC Modernization Prime Contract			6,437	
(U) Total	1,999	3,945	12,628	
		·		
A	Page 11 of 12 Pages	ages		Exhibit R-3

RDT&E	PROG	RAM EL	EMENT/P	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BE	REAKDC	WN (R-	€	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	tem De	velopmen	4		PE NUMBER AND TITLE 0102325F Join	AND TITLE	PE NUMBER AND TITLE 0102325F Joint Surveillance System	ce Syste			
PROJECT NO. AND NAME 2996 FAA/AF Radar Replacement (FARR)	placem	ent (FARR)									
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	n Histor	y and Plannin	g Information	(\$ in Thousand	<u>ds)</u>						
Performing Organizations: Contractor or Contract Government Method/Typ Performing or Funding Activity Vehicle	zations: Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations ESC	<u>ınizations</u>							6,437	Continuing	TBD	
Support and Management Organizations MITRE F19628-94- Ong C-0001	Organizat 8-94- 1	<u>ions</u> Ongoing	(FARR) (R/SOCC)		2,612	356	644	448	Continuing	TBD	
TEMS Various Martin Marietta MDA90 C-0059	Various MDA903-89- C-0059	Ongoing Ongoing	(FARR) (FARR)		1,669 3,475	723	1,200	1,240	Continuing Continuing	TBD	
Miscellaneous Various TEMS (R/SOCC)	. SI .	Ongoing	(FARR) (R/SOCC)		507	334	346	737 650 605	Continuing	TBD	
Test and Evaluation Organizations Various	Izations				2,246	286	1,755	1,520	Continuing	TBD	
Subtotal Product Development	ent				0	0	0	6,437	Continuing	TBD	
Subtotal Support and Ivaliagement	Bement n				8,263	1,413	2,190	4,671	Continuing	TBD	
Total Project	1				2,246 10,509	586 1,999	1,755 3,945	1,520 12,628	Continuing Continuing	TBD	
				Page	Page 12 of 12 Pages	es			Exhibit R-3	?-3	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	JSTIFICA-	TION SE	HEET (R	-2 Exhil	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development		PE NI 010	PE NUMBER AND TITLE 0102411F Surv	⊓LE urveillan	ice Rada	r Station	Surveillance Radar Stations/Sites (SRS)	SRS)	
PROJECT NO. AND NAME 2980 North Atlantic Defense Sys (NADS)	-								
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
2980 North Atlantic Defense Sys (NADS)	3,980	8,502	5,278	5,311	0	0	0	0	66,633
(U) A. <u>Mission Description and Budget Item Justification</u> This program provides improvements to command, control, and communications (C3) and air surveillance capabilities in Iceland. The Control Reporting Center (CRC) and air surveillance radars support air defense requirements in the strategically important Greenland-Iceland-Norwegian gap. The program is a joint program with NATO funding infrastructure while the U.S. funds cryptographic capabilities, system engineering and integration activities. The program is in budget activity 7 since it supports improvements to these currently operational systems.	and communications (C3) and air surveillance capabilities in Iceland. The Control Reporting Center puirements in the strategically important Greenland-Iceland-Norwegian gap. The program is a joint prographic capabilities, system engineering and integration activities. The program is in budget activional systems.	mications (C ne strategica apabilities,	3) and air sı İly importan system engin	urveillance c t Greenland teering and i	apabilities i -Iceland-No integration a	n Iceland. T rwegian gap ictivities. TI	The Control] . The program i	Reporting Co am is a joint is in budget a	nter program ictivity 7
(U) FY 1995 (\$ in Thousands) - (U) 1,276 Provided Program Office Support. - (U) 2,256 Provided systems engineering support for IADS. - (U) 448 Completed in plant DT&E. - (U) 3,980 Total*	port for IADS.								
(U) FY 1996 (\$ in Thousands) - (U) 2,358 Provide Program Office Support. - (U) 3,880 Provide systems engineering support for IADS. - (U) 2,264 Perform on island DT&E & OT&E. - (U) 8,502 Total	ort for IADS. E.								
 (U) FY 1997 (\$\$\$\$\$ in Thousands) (U) 1,670 Provide Program Office Support. (U) 2,774 Provide systems engineering support for IADS. (U) 834 Complete support for Operational Testing & Evaluation (OT&E). (U) 5,278 Total 	ort for IADS. Testing & Eval	luation (OT	&E).						
* FY95 RDT&E total does not reflect \$1.732 million in NATO funds to support Systems Engineering. Page 1 of 5 Pages	ro funds to sup	pport Systems Engine Page 1 of 5 Pages	ıs Engineerir 75 <i>Pages</i>	ıg.			Exhibit R-2	?-2	

RDT&E BUDGET ITEM JUSTIF	ICATION	SHEET (R	TIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	8 0	PE NUMBER AND TITLE 0102411F Surv	пте urveillance	Radar Station	PE NUMBER AND TITLE 0102411F Surveillance Radar Stations/Sites (SRS)
PROJECT NO. AND NAME 2980 North Atlantic Defense Sys (NADS)					
(U) B. Program Change Summary (\$ in Thousands)					
(U) Previous President's Budget (FY1996)(U) Appropriated Value(U) Adjustments to Appropriated Value	FY 1995 3,852 4,191	FY 1996 9,351 9,351	FY 1997 5,532	Total <u>Cost</u> 67,847	
 a. Congressional General Reduction b. Below Threshold Reprogramming c. SBIR d. Omnibus and other Above Threshold Reprogrammings (U) Adjustments to the Budget since FY96 PB (U) Current Budget Submit 	-339 210 -81 -1 3,980	-393 -299 -157 8,502	-254 5,278	66,633	
(U) Change Summary Explanation: Funding: FY97 Inflation adjustment (-254)					
Schedule: None					
Technical: None					
	Page 2	Page 2 of 5 Pages			Exhibit R-2

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	March 1996
вирдет Астіміту 7 - Operational System Development	PE NUMBER AND TITLE 0102411F Surveillance Radar Stations/Sites (SRS)	(SRS)
PROJECT NO. AND NAME 2980 North Atlantic Defense Sys (NADS)		
(U) C. Other Program Funding Summary (\$ in Thousands)		
(U) D. Schedule Profile		
FY 1995 1 2 3 4	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
(U) First Computer Software Config. Test (U) Ground-Air-Ground Radio Checkout (U) Control Reporting Center Building Complete (U) Tech Manual Validation (U) Inplant Test Complete (U) First Intercept Complete (U) Development Test & Evaluation (U) Functional Configuration Audit (CA)/Physical CA (U) Begin Operator Training (U) Complete Operational Test & Evaluation (U) System Acceptance	× × ×	
	Page 3 of 5 Pages Exhibit R-2	t R-2

RDT&E PROGRAM ELEMENT/P	I/PROJECT COST BREAKDOWN (R-3)	ST BREAK	DOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE 01	PE NUMBER AND TITLE 0102411F Surv	PE NUMBER AND TITLE 0102411F Surveillance Radar Stations/Sites (SRS)	ons/Sites (SRS)
PROJECT NO. AND NAME 2980 North Atlantic Defense Sys (NADS)				
(U) A. Project Cost Breakdown (\$ in Thousands)				
	FY 1995	FY 1996	FY 1997	
(U) Engineering Support	2,256	3,880	2,774	
(U) Test and Evaluation Support	448	2,264	834	
(U) Program Support	1,276	2,358	1,670	
(U) Total	3,980	8,502	5,278	
	ar∵r A appA	Page 4 of 5 Pages		т. С.
	2 1 2 2 2 1	7.5.4.4.5.00		CALIBOR IN-S





RDT&E PROGRAM ELEMENT/PROJEC	PROJECT COST BREAKDOWN (R-3)	REAKDO	JWN (R-	<u></u>	DATE	March 1996	
	PE NUMBER AND TITLE 0102411F Surv	AND TITLE	illance Ra	dar Static	O TITLE Surveillance Radar Stations/Sites (SRS)	SRS)	
PROJECT NO. AND NAME 2980 North Atlantic Defense Sys (NADS)							
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	usands)						
Performing Organizations:							
or Contract t Method/Type Award or	Total	Budget	Budget	Budget	Budget to	Total	
Performing or Funding Ubligation Activity Unice Activity Vehicle Date EAC EAC	FY 1995	FY 1995	FY 1996	EY 1997	Complete	Program	
Product Development Organizations ESC					0		
Support and Management Organizations MITRE F19628-94- Oct 94	29,962	2,256	3,880	2,774	1,650	40,522	-
C-0001 TEMS Various Jun 94	12,388	1,276	1,083	604	089	16,031	
Contracts Miscellaneous Various Contracts	1,202		1,275	1,066	2,481	6,024	
Test and Evaluation Organizations Various	10	448	2,264	834	200	4,056	
Subtotal Product Support	0	0	0	0	0		
Subtotal Support and Management	43,552	3,532	6,238	4,444	4,811	62,577	
Subtotal Test and Evaluation Total Project	10 43,562	448 3,980	2,264 8,502	834 5,278	500 5,311	4,056 66,633	
	Page 5 of 5 Pages	ges			Exhibit R-3	R-3	
	1206						

RDT&E BUDGET ITEM JUS	IIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0102412F North Warning System	
PROJECT NO. AND NAME		
2710 North Warning System (NWS)		

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
2710 North Warning System (NWS)	1,991	982	0	0	0	0	0	0	12,742

(U) A. Mission Description and Budget Item Justification

Warning (DEW) Line extending from Alaska to Labrador. This warning provides the National Command Authorities with time for decision making and survival actions, permitting the launch of strategic retaliatory and command and control aircraft for survival, as well as the ability to alert air defense fighters to intercept attacking aircraft. Due to its age (1957 initial deployment), the DEW Line is increasingly difficult and costly to operate and maintain. The North Warning System (NWS) program replaces The continuing requirement for NWS coverage was revalidated by CINCNORAD in FY93. The NWS is a joint US/Canadian program. The program is funded in Budget the aging DEW Line and will eliminate low-altitude coverage gaps, improve radar performance, and reduce operation and maintenance costs. RDT&E funds provide for assessment for northern air attack approaches to North America. RDT&E funds also support development kits to correct spectrum prototype as other residual activities. the deployment, installation, integration and testing of Unattended Radars (UARs) and Minimally Attended Radars (MARS) in order to provide tactical warning/attack This program provides air surveillance capability and tactical warning of bomber or cruise missile attack against the North American continent through a Distant Early Activity 7 as it supports upgrades to the currently operational system.

(\$ in Thousands) Continued program office, system and technical engineering support. Continued deployment/site integration. Supported post-deployment activities, residuals, and contract deficiencies. Spectrum Prototype Total	(\$ in Thousands) Continue program office technical engineering support. Support post deployment residuals (Spectrum). Total
(U) FY 1995 - (U) 342 - (U) 148 - (U) 226 - (U) 1,275 - (U) 1,991	(U) <u>FY 1996</u> - (U) 427 - (U) 555 - (U) 982

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICATIO	N SHEET (R-2 Exhibit	(DATE March 1996	
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0102412F Nort	PE NUMBER AND TITLE 0102412F North Warning System	ng System		
PROJECT NO. AND NAME 2710 North Warning System (NWS)						
(U) B. Program Change Summary (\$ in Thousands)						
(U) Previous President's Budget (FY1997)	FY 1995 2,035	FY 1996 1,015	$\frac{\text{FY } 1997}{930}$	Total <u>Cost</u> 13,782		
(U) Appropriated Value(U) Adjustments to Appropriated Valuea. Congressional General Reduction	2,068 -33	1,015		-56		
 b. Below Threshold Reprogramming c. SBIR (U) Adjustments to Budget since FY96 PB (U) Current Budget Submit/President's Budget 	-1 -43 1,991	-10	-930 0	-1 -53 -930 12,742		
(U) Change Summary Explanation:						
FY97-Completion of Program						
Schedule: None						
Technical: None						
	Pa	Page 2 of 5 Pages			Exhibit R-2	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0102412F North Warning System	
PROJECT NO. AND NAME 2710 North Warning System (NWS)		
(U) C. Other Program Funding Summary (\$ in Thousands)		
(U) Other Procurement, AF 0 0 0 0 (U) Budget Activity 3, WSC 83810 0 0	FY 1997 FY 1998 FY 1999 FY 2000 FY 2000 5,048 578 095 0 5048 578 095 0	To Total FY 2001 Compl Cost 0 0 5,721 0 0 5,721
NOTE: All Other Procurement, AF funds are for Comm Elec Mods - modifications to AN/FPS-117 Long Range Radar. Radar Modifications will take place in FY96/97.	ons to AN/FPS-117 Long Range Radar. Radar M	odifications will take place in FY96/97.
(U) D. Schedule Profile FY 1995	FY 1996 7 3 4 1 2 3	
(U) AN/FPS-124 Production (Complete) (U) Alaska (AK) Facilities Construction (U) System Testing (Less Antenna) (Complete) (U) Antenna Testing (Complete) (U) AK Communications (U) AK Radars Installed (U) AK Radars Installed (U) AK Maintenance Control & (U) AK Maintenance Control & (U) AK Maintenance Control & (U) AK Maintenance Control & (U) AK Maintenance Control & (U) AK Maintenance Control & (U) AK Maintenance Control & (U) AK Maintenance Control & (U) AK Maintenance Control & (U) AK MC³ Equipment Install (U) Spare parts procurement (U) Spare parts procurement (U) Spactrum Prototype Award (U) Spectrum Prototype Award (U) Spectrum Prototype Test	* * * * * * * * * * * *	×
I P	Page 3 of 5 Pages	Exhibit R-2





RDT&E PROGRAM ELEMENT	PROJECT COST BREAKDOWN (R-3)	ST BREAK	DOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE 0	PE NUMBER AND TITLE 0102412F North	PE NUMBER AND TITLE 0102412F North Warning System	
PROJECT NO. AND NAME 2710 North Warning System (NWS)				
(U) A. Project Cost Breakdown (\$ in Thousands)				
	<u>FY 1995</u>	FY 1996	FY 1997	
(U) Program Management Support	342	265	0	
(U) Systems Engineering	0	214	0	
(U) Contractor Engineering Support	0	503	0	
(U) Spectrum Prototype	1,275	0	0	
(U) Reliability, Maintainability, & Availability	374	0	0	
(U) Total	1,991	982	0	
	Page 4	Page 4 of 5 Pages	·	Exhibit R-3

RDT&E PROGRAM ELEMENT/P	GRAM EL	EMENT/F	ROJECT	ROJECT COST BREAKDOWN (R-3)	REAKD(JWN (R-	3)	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	Developmer	1 2		PE NUMBER ANI 0102412F		אוזדנב System Warning System	System		
PROJECT NO. AND NAME 2710 North Warning System (NWS)	(NWS)					:			
(U) B. Budget Acquisition History and Planning Information	ory and Planni	ng Information	n (\$ in Thousands)	nds)					
Performing Organizations: Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle	Award or Obligation Date	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 199 <u>5</u>	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Product Development Organizations UNISYS FFP ESC	ons Oct 90			577	1,275			0	1,852
Support and Management Organizations MITRE F19628-94- Ong	<u>zations</u> Ongoing			4,246		214	0	0	4,460
TEMS Various Miscellaneous	Ongoing Ongoing			4,104 842	301 415	503 265	0	0	4,908 1,522
Test and Evaluation Organizations None	ωı								
Subtotal Product Support				577	1,275	0	0	0	1.852
Subtotal Support and Management	ŧI			9,192	716	982	0	0	10,890
Total Project				0 692,6	0 1,991	0 982	0	0	12,742
(U) Government Furnished Property: Not applicable.	oerty: Not appli	cable.							
			P	Page 5 of 5 Pages	es			Exhibit R-3	2-3





RDT&E BUDGET ITEM JUS	STIFICATION SHEET (R-2 Exhibit)	TION SE	HEET (R	-2 Exhit	oit)		DATE M	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development		PE NU 020	PE NUMBER AND TITLE 0207129F F-11	_	Squadrons				
		·							
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	4,422	568	0	0	0	0	0	0	123,555
3079 Digital Flight Control System (DFCS)	4,236	568	0	0	0	0	0	0	75,484
1332 Back Injury Reduction Program (BIRP)	19	0	0	0	0	0	0	0	9,242
1930 Stores Management System (SMS)	167	0	0	0	0	0	0	0	38,829
(U) A. Mission Description and Budget Item Justification (U) This program provides funds to develop improved systems for the F-111F/EF-111A aircraft. These improvements maintain the weapon system as a safe, reliable, and maintainable aircraft. The F-111F fleet will be retired in FY96. The EF-111A is programmed to be retired in FY98. Requested funds complete corrections to flight discrepancies on safety modifications and pay RDT&E related termination costs. This program is Operational System Development because it develops upgrades to an operational system.	s for the F-111F/EF-111A aircraft. These improvements maintain the weapon system as a safe, reliable, 6. The EF-111A is programmed to be retired in FY98. Requested funds complete corrections to flight termination costs. This program is Operational System Development because it develops upgrades to an	1F/EF-111A 11A is progri costs. This p	ammed to be program is C	hese improve retired in F perational S	rments mair Y98. Reque ystem Deve	itain the wer ssted funds (lopment bec	npon system complete cor ause it devel	as a safe, rel rections to fl tops upgrade	iable, and ight s to an
(U) B. Program Change Summary (\$ in Thousands)									
					T	Total			
(U) Previous President's Budget	FY 1995 4,667		FY 1996 597 507	FY 1997 0	Cost 127,684	<u>Cost</u> 7,684			
(U) Appropriated Value (U) Adjustments to Appropriated Value	-249	6	-29						
ಡ .	-52	2.2	<u> </u>						
b. SELKc. Omnibus or Other Above Threshold Reprogramd. Below Threshold Reprogramming	-100	00	-17						
(U) Changes to Current Year Budget (U) Current Budget Submit/President's Budget	4,422	77	268	0	123,555	555			

Page 1 of 14 Pages

RDT&E BUDGET ITEM JUSTIFICATION	JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0207129F F-111 Squadrons	

(U) Change Summary Explanation:

Force Withhold to be used only for safety modifications for the F/EF-111 aircraft. These funds can be used only after justification is provided to Congress by the Funding: Of the \$4.671 million appropriated in FY95 for the F/EF-111 program, \$4.422 million was available after adjustments. Based on early Congressional unencumbered by any restrictions. That money was obligated on three projects within the F/EF-111 program. Currently, \$3.169 million has been placed in Air language, \$852,000 was initially placed on Air Force Withhold for safety modifications. Subsequent Congressional language stated \$1.254 million would be Secretary of the Air Force

- 1) Back Injury Reduction Program (BIRP) was fully funded with FY94 dollars except \$19,000 FY95 money used to support testing and conduct final briefings to
- 2) Stores Management System (SMS) program was terminated upon notification F-111F would be retired. Program termination actions resulted in decreased funding requirements.
- 3) Digital Flight Control funding increased initially as a result of changes required to resolve problems identified in DT&E. Money appropriated within the F/EF-111 program for SMS and BIRP was shifted to DFCS. Because of Congressional restrictions, the DFCS program in FY95 was adjusted to reflect the restrictions. \$1.067 million has been obligated for DFCS in FY95. In addition, \$3.169 million has been placed in Air Force Withhold pending requirement for safety modifications

Schedule: N/A

Additionally, there are several improvements to self-test and fault monitoring functions. Scope of this engineering change reduced to absolute minimum due to Technical: DFCS incorporates a hardware/software change which improves the Ground Collision Avoidance System characteristics in the F-111/EF-111. impending weapon system retirement.

(U) C. Other Program Funding Summary (\$\sin\$ in Thousands)

Cost	
Compl	
FY 2001	
FY 2000	
FY 1999	
FY 1998	
FY 1997	
FY 1996	HERE, ()
FY 1995	200
	(U) Aircraft Procurement (BP 1100)

 $_{10}$

FY 1997

(U) D. Schedule Profile

(U) DFCS Flight Test Program X X (U) Back Injury Reduction Program X X	FY 1995 3 4 4 X X X	-×	× ×	€ X	<u>FY 1996</u> 4	
ID Stores Monogramont Crestom M/A magazine touringel	100					

(U) Stores Management System - N/A, program terminated

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RDT&E BUDGET ITEM JUS		TION SH	IEET (R	TIFICATION SHEET (R-2 Exhibit)	oit)		DATE N	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development		PE NU 020	PE NUMBER AND TITLE 0207129F F-11	—	Squadrons				
PROJECT NO. AND NAME 3079 Digital Flight Control System (DFCS)						:			
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3079 Digital Flight Control System (DFCS)	4,236	568	0	0	0	0	0	0	75,484
(U) A. Mission Description and Budget Item Justification DFCS is a permanent safety modification that replaces the electronic portion of the F/EF-111A flight control system with a modern state-of-the-art digital computer and sensors. It improves the critical interfaces to the flight control system by incorporating the on-board autopilot, low altitude monitor, and terrain following radar systems.	electronic po t control syst	ortion of the em by incorp	F/EF-111A oorating the	flight contro on-board au	ıl system wii topilot, low	h a modern altitude mo	state-of-the- nitor, and ter	electronic portion of the F/EF-111A flight control system with a modern state-of-the-art digital computer t control system by incorporating the on-board autopilot, low altitude monitor, and terrain following radar	omputer ng radar
 (U) FY 1995 (\$\frac{\psi}{\text{in Thousands}}\$: (U) \$\frac{\psi}{\psi}\),067 ECP 3326 Kitproof and Initiate OT&E (U) \$\frac{\psi}{\psi}\),169 Congressionally Restricted, on withhold pending Congressional Approval to Use as Safety Modification (U) \$\frac{\psi}{\psi}\),169 Congressionally Restricted, on withhold pending Congressional Approval to Use as Safety Modification 	2E 10Id pending	Congression	al Approval	l to Use as Sa	ıfety Modifî	cation			
(U) FY 1996 (\$ in Thousands): - (U) \$243 Complete ECP3326 flight test - (U) \$325 Incorporate flight test results in ECP3326 - (U) \$568 Total	3326								
(U) B. Program Change Summary (\$ in Thousands)					Ţ	Total			
 (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value (U) Changes to Current Year Budget (U) Current Budget Submit/President's Budget 	FY 1995 4,236 4,236 0 0		FY 1996 597 597 -29 568	FY 19 <u>97</u>	Cost 71,103 71,103 75,483	Cost .,103 .,103			
(U) Change Summary Explanation:									
		Page 3 of 14 Pages	14 Pages				Exhibit R-2	3-2	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207129F F-111 Squadrons	
PROJECT NO. AND NAME 3079 Digital Flight Control System (DFCS)		
Funding: Digital Flight Control System (DFCS) funding increased as a result of changes required to resolve problems identified in DT&E. Of the \$1.2. FY95 money unencumbered by Congress, \$1.067 million was programmed for DFCS. Funding request includes estimate of program termination costs.	increased as a result of changes required to resolve problems identified in DT&E. Of the \$1.254 million was programmed for DFCS. Funding request includes estimate of program termination costs.	DT&E. Of the \$1.254 million m termination costs.
Schedule: See below		
Technical: Additionally, there are several improvements to self-test and minimum due to impending weapon system retirement.	to self-test and fault monitoring functions. Scope of this engineering change reduced to absolute	ge reduced to absolute
(U) C. Other Program Funding Summary (\$ in Thousands):		
(U) Aircraft Procurement (BP 1100)	FY 1997 FY 1998 FY 1999 FY 2000 FY 2001	Total
(U) D. Schedule Profile:		
(U) Flight Test (U) LFW DT&E Deficiency Analysis (U) LFW Proposal for Ch 1 to ECP 3326 (U) ECP 3326 Kitproof (U) GFP Flight Test Complete (U) OFP Flight Test Complete (U) CFP Kits Delivered (U) Operational Installation of ECP3326	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
Pa	Page 4 of 14 Pages	Exhibit R-2





RDT	RDT&E PROGRAM ELEMENT	SRAM EL		PROJECT COST BREAKDOWN (R-3)	COSTB	REAKDO	WN (R-3		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	System De	evelopmen			PE NUMBER AND TITLE 0207129F F-11	-	Squadrons	S			
PROJECT NO. AND NAME 3079 Digital Flight Control System (DFCS)	ME It Control Sy	stem (DFCS)									
(U) A. Project Cost Breakdown (\$ in Thousands)	t Breakdown (\$ in Thousand	(§)	FY 1995		FY 1996					
 (U) Contractor Engineering Support (U) Flight Test (U) Travel (U) Program Management Support (U) Government Engineering Support (U) Miscellaneous (U) Contract and Program Termination (U) Congressionally Restricted - Safety Modifications (U) Total 	neering Suppor ement Support gineering Supp ogram Termina Restricted - Sa	rt ort ution ifety Modificati	ons	199 309 103 322 134 0 0 0 4,236	99 03 34 0 0 36 36	263 133 50 5 0 117 0 0 568					
(U) B. Budget Acquisition History and Planning Informati	uisition Histor	y and Plannir	g Information	ion (\$ in Thousands)	<u>(spu</u>						
Contractor or Government Performing Activity	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to <u>FY 1995</u>	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
(U) Lockheed FW	FFPI	23 Jan 86	35,481	35,481	35,481	0	0	0	0	35,481	
Product Development Organizations	t Organization	SI									
(U) Lockheed FW	CET	FY 94/3	974	974	390	384	30	0	0	974	
				ď	Page 5 of 14 Pages	880			Exhibit R-3	7 .3	
				, ,	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2						

RD	RDT&E PROGRAM ELEMENT/	SRAM EL	EMENT/P	PROJECT COST BREAKDOWN (R-3)	COST B	REAKDO	JWN (R-	3)	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	al System De	evelopmen	 		PE NUMBER AND TITLE 0207129F F-11	I —	Squadrons	S			
PROJECT NO. AND NAME 3079 Digital Flight Control System (DFCS)	JAME ght Control Sy	stem (DFCS)									
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total Program	
(U) Lockheed FW	FFPI	23 Jan 86	35,481	35,481	35,481	0	0	0	0	35,481	
Support and Management Organizations	gement Organizat	tions									
(U) SM-ALC	Form 206	FY 94/4	35,834	35,834	35,424	700	375	0	0	4,967	
Test and Evaluation Organizations	n Organizations										
(U) SM-ALC (U)27FW(OT&E)	Form 206 Form 616	FY 94/4 FY 95/2	2,239 200	2,239	1,849 0	1,067	133	0	0 0	4,227 200	
(U) B. Budget Acquisition History and Planning Information Continued (\$\sqrt{s}\$ in Thousands)	quisition Histor	y and Plannin	g Information	Continued (\$	in Thousands	্বে					
Government Furnished Property: Contract Method/Type Item or Funding Description Vehicle N/A	ished Property: Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Delivery <u>Date</u>		Total Prior to FY 1995	Budget FY 199 <u>5</u>	Budget FY 1996	Budget FY 1997	Budget to <u>Complete</u>	Total <u>Program</u>	
Product Development Property: N/A	int Property: N/A										
Support and Management Property: N/A	ement Property:	N/A									
Test and Evaluation Property: N/A	Property: N/A										

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RDT&E PROGRAM ELEMENT	RAM ELE	:MENT/PROJECT COST BREAKDOWN (R-3)	COST BE	EAKDO	WN (R-3)		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	velopment		PE NUMBER AND TITLE 0207129F F-11	AND TITLE F F-111 S	PE NUMBER AND TITLE 0207129F F-111 Squadrons				
PROJECT NO. AND NAME 3079 Digital Flight Control System (DFCS)	tem (DFCS)								
Contract Method/Type Item or Funding Description Vehicle N/A	Award or Obligation <u>Date</u>	Delivery <u>Date</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Congressionally Restricted Total Project			390 762 791 0 1,943	199 559 309 3169 4,236	60 375 162 0 567			75,484	
		I	Page 7 of 14 Pages	es			Exhibit R-3	₹-3	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA.	TION SE	HEET (R	-2 Exhil	bit)		DATE	March 1996	٣
BUDGET ACTIVITY 7 - Operational System Development		PE NU 020	PE NUMBER AND TITLE 0207129F F-11	TITLE F-111 Squadrons	ladrons				,
PROJECT NO. AND NAME 1332 Back Injury Reduction Program (BIRP)					:				
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to	Total Cost
1332 Back Injury Reduction Program (BIRP)	19	0	0	0	0	0	0	0	9,242
(U) A. Mission Description and Budget Item Justification: Technical budget and scheduling risks forced termination of the larger F-111 Main Recovery Paracl Program in 1993. ACC directed an investigation into exploring other means of reducing F-111 aircrew ejection back injuries. This investigation includes studies investigating: crew module weight reduction, energy absorbing seats, improved impact attenuation bag, stability enhancements to the current 70° diameter recovery parachute, and the optimum combination of the above technologies in terms of back injury reduction and cost benefit.	Technical bug other mean seats, improgies in terms	idget and sc s of reducing ved impact a of back inju	heduling ris g F-111 airc nttenuation b ny reduction	ks forced ter rew ejection ag, stability and cost be	mination of back injurie enhancemer	the larger F. s. This invents to the cur	echnical budget and scheduling risks forced termination of the larger F-111 Main Recovery Parachute other means of reducing F-111 aircrew ejection back injuries. This investigation includes studies eats, improved impact attenuation bag, stability enhancements to the current 70° diameter recovery es in terms of back injury reduction and cost benefit.	ecovery Para ludes studie neter recove	ıchute s ry
(U) FY 1995 (\$ in Thousands): - (U) \$19 Program support, to report program results to ACC. - (U) \$19 Total	results to AC	ರ							
(U) FY 1996 (\$ in Thousands): N/A									
(U) FY 1997 (\$ in Thousands): N/A									
(U) B. Program Change Summary (S in Thousands)									
 (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value (U) Changes to Current Year Budget (U) Current Budget Submit/President's Budget 	FY 1995 1,004 1,004 -985		FY 1996 0 0 0	FY 1997 0 0	Total Cost 12,962 12,962 -985	al 52 52 53 77			



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(U) Change Summary Explanation:



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) DATE March 1996	BUDGET ACTIVITY 7 - Operational System Development	eduction Program (BIRP)	Funding: Program tasks were fully funded using FY94 funds with the exception of \$19,000 FY95 funds being used for mission support to terminate program.	Schedule: N/A	Technical: N/A	(U) C. Other Program Funding Summary (\$ in Thousands): Not Applicable	Schedule Profile	11 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 4 4 1 2 3 4 4 4 1 2 3 4 4 4 1 2 3 4 4 4 1 2 3 4 4 4 1 2 3 4 4 4 1 2 3 4 4 4 1 2 3 4 4 4 1 2	vortn Centers Proposals	×	Conduct Energy Absorbing Seat Test X X	××××	LFW Issue Final Report to SM-ALC SM-ALC Brief Findings to ACC X		
R	BUDGET ACTIVITY 7 - Operational S	PROJECT NO. AND NAME 1332 Back Injury Re	Funding: Progr	Schedule: N/A	Technical: N/A	(U) C. Other Progra	(U) D. Schedule Profile	(U) F-111 BIRP		(U) Conduct Parachute (U) Impact Attenuation		(U) Conduct Opt Com	(U) LFW Issue Final F (U) SM-ALC Brief Fin		

Page 9 of 14 Pages 1220

RC	RDT&E PROGRAM ELEMENT/PROJECT	GRAM EL	EMENT/F	ROJECT		COST BREAKDOWN (R-3)	OWN (R-	3)	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	al System D	evelopme	nt		PE NUMBE 020712	PE NUMBER AND TITLE 0207129F F-111	Squadrons) St			
PROJECT NO. AND NAME 1332 Back Injury Re	DT NO. AND NAME Back Injury Reduction Program (BIRP)	Program (BIF	(P)								
(U) A. Project Cost Breakdown (\$ in Thousands)	ost Breakdown	(\$ in Thousan	(इक्	FY 1995		FY 1996		:			
 (U) Contract Engineering Tas (U) Travel (U) NASA Testing (U) Government Engineering (U) Miscellaneous (U) Total 	Contract Engineering Task (Lockheed Ft Worth) Travel NASA Testing Government Engineering Miscellaneous	ockheed Ft Wo	orth)		0 19 0 0 0 19	000000					
(U) B. Budget Acquisition History and Planning Information Performing Organizations: Contractor or Contract Government Method/Type Award or Performing Performing or Funding Obligation Activity Activity Vehicle Date EAC	cquisition Histonizations: Contract Method/Type or Funding	ry and Plannii Award or Obligation <u>Date</u>	ng Information Performing Activity EAC	n (\$ in Thousands) Project Office F	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations (U) LFW CET (U) GD CET (U) Ervin Indstry Service	ent Organization CET CET Service	14 Jun 94 14 May 92 24 Feb 92	1,415 3,547 1,315	1,415 3,547 1,315	1,415 0 1,315	0 0 0	0 0 0	0 0 0	0 0 0	1,415 3,547 1,315	
Support and Management Organizations (U)SM-ALC/LAF TDY Orders Var	Contract gement Organiza TDY Orders	<u>ations</u> Various	95	95	75	. 19	0	0	0	94	
(U) NASA Test Project Order (U) Wright Labs Project Order (U) China Lake NAWCPO (U) Holloman Project Order	Project Order Project Order NAWCPO Project Order	14 Mar 91 28 Jun 91 27 Mar 91 4 Jan 91	843 40 1,801 187	843 40 1,801 187	843 40 1,801 187	0 0 0	0000	0000	0000	843 40 1,801 187	-
				Pa	Page 10 of 14 Pages	ıges			Exhibit R-3	R-3	





RDT&E PROGF	RDT&E PROGRAM ELEMENT/PRO	PROJECT COST BREAKDOWN (R-3)	EAKDO	WN (R-3		DATE N	March 1996	
ВUDGET ACTIVITY 7 - Operational System Development	elopment	PE NUMBER AND TITLE 0207129F F-11	ND TITLE	ЭТІТІЕ F-111 Squadrons				
PROJECT NO. AND NAME 1332 Back Injury Reduction Program (BIRP)	gram (BIRP)							
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	and Planning Information Co	ntinued (\$ in Thousands)						
Government Furnished Property:								-
Contract Method/Type Item or Funding Oescription	Award or Obligation Delivery <u>Date</u> <u>Date</u>	Total Prior to <u>FY 1995</u>	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Property: N/A								
Support and Management Property: N/A	/A							
Test and Evaluation Property: N/A								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation		6,277 75 <u>2,871</u>	0 19 0	0 0 01		000	6,277 95 2,871	
Total Project		9,223	19	0		0	9,242	
		Page 11 of 14 Pages	es			Exhibit R-3	R-3	

RDT&E BUDGET ITEM JUSTIFICATION	JSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0207129F F-111 Squadrons	
PROJECT NO. AND NAME		

1930 Stores Management System (SMS)

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
1930 Stores Management System (SMS)	167	0	0	0	0	0	0		38,829

(U) A. Mission Description and Budget Item Justification: The decision to retire the F-111 has resulted in the termination of this program. The termination includes canceling sub-contracts, restoring some test equipment to original configuration, and eliminating the organic workforce.

(U) FY 1995 (\$ in Thousands):

Complete program termination Total

(U) \$167 (U) \$167

(U) FY 1996 (\$ in Thousands): N/A

(U) FY 1997 (\$ in Thousands): N/A

(U) B. Program Change Summary (\$ in Thousands)

1) Previous President's Budoet	FY 1995 9.881	FY 1996	$\frac{\text{FY } 1997}{0}$	
U) Appropriated Value	9.881	000,5		
U) Adjustments to Appropriated Value	-9714	-5006	0	
U) Current Budget Submit/President's Budget	167	0	0	
U) Change Summary Explanation:				

Funding: Decreased requirements in FY95, and FY96 are the result of program termination Schedule: N/A

Technical: N/A

Other Program Funding Summary (\$ in Thousands): N/A (U) C. Other Program Fundi (U) D. Schedule Profile: N/A

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RDT8	E PROG	RDT&E PROGRAM ELEMENT	EMENT/P	/PROJECT COST BREAKDOWN (R-3)	COST BE	REAKDO	WN (R-3		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	System De	velopmen			PE NUMBER AND TITLE 0207129F F-11	 	Squadrons	S			
PROJECT NO. AND NAME 1930 Stores Management System (SMS)	gement Syst	em (SMS)									
(U) A. Project Cost Breakdown (\$ in Thousands)	Breakdown (s in Thousand	হৈ	FY 1995	₩						
 (U) Primary Hardware Reconfiguration (U) Program Management Support (U) Training Development (U) Systems Engineering (U) Software Development (U) Tech Data (U) Operational Test & Evaluation (U) Total 	e Reconfigural nent Support nent Personne ment ing ment	ion M		32 25 110 0 0 0 0 0 0 0 0 167	22 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	isition Histor	y and Plannin	g Information	(\$ in Thousar	(spi						
Performing Organizations: Contractor or Contrac Government Method Performing or Fund Activity Vehicle	zations: Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations (U) SM-ALC (U) Various, <\$1M each (U) SM-ALC/TIS PO	Organizations th O	Oct 94	31,575 3,281 1,567	31,575 3,281 1,567	31,575 2,916 1,567	0 32 0	000	0 0 0	0 0 0	31,575 2,948 1,567	
Support and Management Organizations (U) Various, <\$1M each	nent Organiza ch	tions	1,095	1,095	096	135	0	0	0	1,095	
Test and Evaluation Organizations (U) Various, <\$1M each	rganizations ch		1,644	1,644 <i>Pa</i>	1,644 Page 13 of 14 Pages	0 0	0	0	0 Exhibit R-3	1,644	

RDT&E PROGRAM ELEMENT/PROJECT	CT COST BREAKDOWN (R-3)	REAKDO	WN (R-	<u></u>	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207129F F-11	AND TITLE JF F-111	Squadrons	S		
PROJECT NO. AND NAME 1930 Stores Management System (SMS)		:				
(U) B. Budget Acquisition History and Planning Information Continue	Continued (\$ in Thousands)	[7]				
Government Furnished Property:						
Contract Method/Type Award or Item or Funding Obligation Delivery Description Vehicle Date N/A	Total Prior to <u>FY 1995</u>	Budget FY 199 <u>5</u>	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Product Development Property: N/A						
Support and Management Property: N/A						
Test and Evaluation Property: N/A						
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	36,000 1,018 1,644	$\begin{array}{c} 32 \\ 135 \\ 0 \end{array}$	0 0 0		0 0 0	36,032 1,153 1,644
Total Project	38,662	167	0		0	38,829
	Page 14 of 14 Pages	res			Exhibit R-3	2-3

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SE	HEET (R	-2 Exhit	oit)		DATE	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development		PE NL	PENUMBER AND TITLE 0207133F E-16 Souradrons	ITLE -16 Soura	drons				
PROJECT NO. AND NAME 2671 F-16 Squadrons									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
2671 F-16 Squadrons	133,227	164,230	142,202	118,890	116,736	160,204	165,024	ТВО	ТВО

(U) A. Mission Description and Budget Item Justification

- single-seat, multirole tactical fighter with full air-to-air and air-to-surface combat capabilities. The F-16 complements the F-15 in counter-air missions and as the primary (U) The F-16 fighter aircraft program satisfies the need for modernization of the USAF and allied multimission tactical fighter forces. The F-16 is a single-engine, aircraft in the surface attack role. The F-16C/D program develops, integrates, and qualifies systems to enhance the overall performance of the F-16 mission.
- (U) The F-16 program also develops enhanced combat capability in both the air-to-ground and air-to-air role. Improvements (all within the FYDP) include completion of the Mid-Life Update (MLU) Program, the Modular Mission Computer (MMC), Block 30 GPS Integration, Smart Weapons Integration, and Pratt & Whitney 229 Engine design improvements. The planned program also develops Close Air Support (CAS) enhancements for 250 Block 40 C/D by integrating Night Vision lighting and Alternate VHF Antenna. The F-16C/D development efforts are complemented by comprehensive Operational Flight Program (OFP) upgrades.
- the Block 50 aircraft with the latest version of the High Speed Anti-Radiation Missile (HARM). The program includes enhancements to the HARM Targeting System to mods to European F-16A/B, including the Modular Mission Computer (MMC), which USAF Block 50s will eventually employ. The MMC will extend the cost effective (U) To meet the need beyond the turn of the century, a Mid-Life Update (MLU) of aircraft avionics is being conducted by our European partners. MLU involves various life of the F-16 through replacement of three Line Replaceable Units and the addition of significant memory and processing growth provisions. The latest version of the F-16C/D has significantly improved display processors, enabling increased pilot situational awareness. Efforts are underway to upgrade the IDM data link capability on enable the F-16 Block 50 to better perform in the Suppression of Enemy Air Defenses role.
- (U) The F-16, which received Milestone III approval in FY 1977, is an operational aircraft. Since the development activities in this PE support an operational aircraft, these development activities are funded in the Operational System Development budget activity seven.

Page I of 9 Pages

PE NUMBER AND TITLE 0207133F F-16 Squadrons
Continued MLU EMD (Install MLU kits in trial verification installation aircraft) Continued MMC Upgrade for Block 30 Continued (from FY 1993) MMC MZ Tape Upgrade Started Block 40 Close Air Support (CAS) EMD effort Started Block 40 Close Air Support Other (See R-3) Total Continue MLU EMD Continue MLU EMD Continue PLO Block 40 CAS EMD Initiate Block 30 Global Positioning System Initiate Block 30 Global Positioning System Online F195 Procurement) Operational Flight Program updates Continue Fight Tests DT&E Cont

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SATION S	HEET (R	-2 Exhibit)		DATE March 1996	
BUDGET ACTIVITY 7 - Operational System Development	PE I	PE NUMBER AND TITLE 0207133F F-16	TITLE F-16 Squadrons	S		
PROJECT NO. AND NAME 2671 F-16 Squadrons						
(U) A. Mission Description and Budget Item Justification - Continued	pər		•			
(U) FY 1997 - (U) \$2,680 Complete Mid-Life Update Engineering and Manufacturing Development (EMD) - (U) \$16,700 Continue Modular Mission Computer - (U) \$16,538 Continue F-16 Close Air Support EMD - (U) \$7,940 Continue Block 30 Global Positioning System - (U) \$12,020 Continue Operational Flight Program - (U) \$55,193 Continue Plight Tests Developmental Test & Evaluation - (U) \$26,700 Continue Flight Tests Developmental Test & Evaluation - (U) \$4,431 Other (See R-3) - (U) \$142,202	Manufacturing n ; Evaluation	g Development	(EMD)			
(U) B. Program Change Summary (\$ in Thousands)						
vious President's Budget propriated Value justiments to Appropriated Value Below Threshold Reprogrammings General Congressional Reductions Small Business Innovative Research (SIBR)	FY 1995 134,236 138,657 -1,009 -1,528 -2,893	FY 1996 175,600 175,600 -3,439 -4,221	FY 1997 152,785	Total Cost TBD		·
 d. Bosnia Bill e. Recission (F-16s to Jordan) (U) Adjustments to Budget Since FY96 PB a. O&M Reduction b. Electronic Combat Integrated Test Facility 		-1,876 -1,834	-761 -1,300			****
	Page 3	Page 3 of 9 Pages	,		Exhibit R-2	
		0001				

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ITEM JUS	STIFIC	ATION	SHEET	(R-2 E)	chibit)		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	ent		<u> </u>	PE NUMBER AND TITLE 0207133F F-16	ND TITLE F F-16 S	D TITLE F-16 Squadrons	S			
PROJECT NO. AND NAME 2671 F-16 Squadrons										
c. Transfer to F-15 for Accelerating ALQ-135 Band 3	.135 Band 3	FY 1995	<u> 995</u>	FY 1996	FY 1997 -4,200	9 <u>7</u> 00 33	Total Cost			
(U) Current Budget Submit/President's Budget (U) B. Program Change Summary (\$\frac{*}{s}\$ in Thousands) - Continued	usands) - Cont		133,227	164,230	-4,322 142,202	77 03	TBD			
 (U) Change Summary Explanation: Funding: Reduces net of \$27,383 RDT&E funds in FY94-97. This net decrease includes: \$1,009 decrease in FY95 for Below Threshold Reprogrammings \$1.876 decrease in FY 96 for Bosnia Bill 	UDT&E funds i Below Thresho	n FY94-9' old Reprog	7. This net	t decrease in	cludes:					
 \$1,834 decrease for Omnibus/Other Above Threshold Reprogramming (Reprogramming for F-16s to Jordan) \$4,322 decrease in FY 97 for Inflation Adjustment 	Other Above Inflation Adju	Threshold istment	Reprograr	nming (Rep	rogramming	for F-16s to	Jordan)			
 \$4,967 decrease in FY 95-96 for General Congressional Reductions \$2,061 decrease in FY97 for Other PBD/Budget Exercise Changes \$4,200 decrease in FY97 for F-15 ALQ-135 Band 3 Acceleration (fig. 87 114 decrease in FY 95-96 for SIRR) 	for General Co Other PBD/Bu F-15 ALQ-135 For SIBR	ongression dget Exer Band 3 A	ial Reducti cise Chang cceleration	ons es a (funds shif	ngressional Reductions Iget Exercise Changes Band 3 Acceleration (funds shifted to F-15 PE)	эE)				
 Schedule: Some Block 30 CAS development tasks slipped to FY02 as directed by the user to fund higher priority programs. Support Equipment: Reduced maintenance capability as a result of not keeping test stands current with mods. Unit Training Devices (UTDs): The trainers will not be current with the latest software releases (i.e., 40T5 for Bk 40s). UDTs cut by 85% in 96. Flight Tests: Inability to handle "pop-up" tests such as Project Sure Strike. 	elopment tasks ed maintenance Os): The traine	slipped to e capability rs will not	FY02 as dy as a result be current as Project	lirected by the of not keep to with the land with the land Sure Strike	ie user to fu ping test star test software	nd higher p nds current releases (i.	riority prog with mods. 2., 40T5 for	rams. : Bk 40s). UDT	's cut by 85% in 96.	
• Integrated Modular Avionics (IMA)/LINK 16: FICOP II funds for IMA (LINK 16) will be insufficient on a dollar-for-dollar basis with the cuts. Technical: The Block 40 CAS development effort will not integrate a Laser Spot Tracker equipped Low Altitude Navigation and Targeting InfraRed for Night (LANTIRN) pod.	s (IMA)/LINK ort will not inte	16: FICC grate a La	P II funds ser Spot Tr	for IMA (Lacker equip	JNK 16) wil ped Low Alt	l be insuffic itude Navig	ient on a de ation and T	ollar-for-dollar l argeting InfraR	basis with the cuts. ted for Night	
PE 0207133F, F-16 SQUADRONS, AIRCRAFT PROCUREMENT (APPN 3010), AF (U) Aircraft Weapon Systems (BP1000) (U) Aircraft Initial Spares (part of BP1600) (U) Modifications (BP 1100) (U) Post Production Support (BP1300)	FY 1995 79,719 7,796 113,300	FY 1996 153,991 6,402 117,090 122,326	FY 1997 105,500 0 118,278 81,562	FY 1998 0 230,291 19,736	FY 1999 0 255,898 28,687	FY 2000 0 245,903 16,634	FX 2001 0 234,087 13,822	To <u>Compl</u> TBD TBD TBD TBD	Total Cost TBD TBD TBD	
			Page 4	Page 4 of 9 Pages	ľ	,		Exhibit R-2		





RDT&E BUDGET ITE	EM JUSTIFICAT	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207133F F-16 Squadrons	
PROJECT NO. AND NAME 2671 F-16 Squadrons			
(U) D. Schedule Profile	FY 1995	$\frac{\text{FY 1996}}{1 2 3 4 1 2 3 4}$	
(U) ENGINEERING MILESTONES: Mid-Life Update (MLU) HdWr CDR Modular Mission Computer (MMC) PDR Blk 50T3 FCA/PCA Rlk 50T4 SDR			
CDR	× ×	×	
vare (SW) Update SCU-2 Support (CAS) SRR pdate Z2 FCA/PCA A2 Authorization fframe CDR -3 PCA NES v Test & Eval (DT&E) f&E Start art tart LESTONES	* × ×	* * * * * * * * * * * * *	
X=Effort Completed *=Effort Started		Page 5 of 9 Pages	Exhibit R-2

RDT&E PROGRAM ELEMENT/PF	PROJECT CO	ST BREAK	COST BREAKDOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE 02	PE NUMBER AND TITLE 0207133F F-16	PE NUMBER AND TITLE 0207133F F-16 Squadrons	
PROJECT NO. AND NAME 2671 F-16 Squadrons				
(U) A. Project Cost Breakdown (\$ in Thousands)				
	FY 1995	FY 1996	FY 1997	
(U) Pratt & Whitney 229 Engine	3,000	1,100	993	
_		200	3 377	
	14,742	118	61	
(U) Government Furnished Test Equipment (U) Ouick Reaction Canability	1,100			
	39,470	28.337	26.700	
	15,700	17,274	2,680	
	21,670	27,997	16,538	
	25,800	29,984	16,700	
	6,225			
		39,064	55,193	
(U) Smart Weapons Integration (I) Bit 30 Global Docitioning Statem (CDS) Integration		6,950	12,020	
	070	12,906	7,940	
	006			
	150			
(U) Total	133,227	164,230	142,202	
	Page 6 o	Page 6 of 9 Pages		Exhibit R-3
	1231	31		





RDT&E	PROG	RDT&E PROGRAM ELEMENT		ROJECT	PROJECT COST BREAKDOWN (R-3)	REAKDO	WN (R-3)		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	stem De	velopment	1		PE NUMBER AND TITLE 0207133F F-16	AND TITLE F F-16 Sq	ЭТITLE F-16 Squadrons				
PROJECT NO. AND NAME 2671 F-16 Squadrons											
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	on History	and Plannin	g Information	(\$ in Thousar	(spu						
Performing Organizations: Contractor or Contractor	ns: ract										
Government Method Performing or Fund Activity Vehicle	Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations Area T. te. Tr. 3 of Color In A increase With Development - I colchard Martin Teatien Aircraft Systems (I MTAS)	anizations	Vit Dandon	daloo I - taon	ood_Mordin To	actical Aircraf	* Svetems (1.)	(SATM				
MNG-Life Opusite (MLC) And LMTAS (Au) SS/CPIF LMTAS (Unau)	у Античии Р.Б.	Jan 92	71,956	73,100 12,768	58,042 0	11,300 1,228	3,764 11,500	0 40	00	73,100 12,768	
MLU Radar Kit Development WEC (Au) SS/CPIF	pment PIF	Mar 92	11,149	11,769	9,250	1,592	385	542	0	11,769	122
All Other MLU-Related Activities Misc Contractors	Activities				6,164	1,580	1,625	2,098	0	11,467	
Modular Mission Computer (MMC) LMTAS SS/CPIF J	nter (MM) PIF	C) Jan 92	243,900	253,100	195,959	23,465	21,000	8,762	TBD	TBD	
MMC Operational Flight Program Development (OFP) LMTAS SS/CPIF Sep 94 17	nt Program PIF	n Developmen Sep 94	it (OFP) 17,225	17,225	11,000	6,225				17,225	<u> </u>
Other MMC-Related Activities	ctivities				3,318	2,335	8,984	7,938	0	22,575	
Main Fuel Shutoff Valve LMTAS SS/FPIF	e PIF	Mar 95	497	497						497	
ınt Furnis	Equipmen PIF	t Loan Paybae Sep 95	ck 1,100	1,100		1,100				1,100	
Propulsion P&W SS/FFP	FP	Dec 94	96,493	96,493	91,400	3,000	1,100	993	0	96,493	
Quick Reaction Capability LMTAS SS/FFP	lity FP	Sep 95	3,500	3,500		3,500				3,500	
				P	Page 7 of 9 Pages	es			Exhibit R-3	ત્ર-3	
					1727						

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	GRAM EL	EMENT/F	ROJECT	COST BI	REAKDO	WN (R-3		DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	Developmen	<u></u>		PE NUMBER AND TITLE 0207133F F-16	PE NUMBER AND TITLE 0207133F F-16 Squadrons	quadrons			
PROJECT NO. AND NAME 2671 F-16 Squadrons									
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Comet/AISF TBD TBD TBD	2Q96			157,900	0	0	0	0	157,900
TBD 1096 Blk 40 Close Air Support (CAS)						200	3,377	TBD	TBD
LMTAS SS/T&M LMTAS SS/CPIF	Feb 95 Apr 96	25,318	25,318	3,648 0	21,670 0	27,997	20,860	TBD	25,318 TBD
LMTAS Smart Weanons Integration	Dec 95					39,064	55,193	TBD	TBD
TBD TBD TBD	3Q96					6,950	12,020	TBD	TBD
LMTAS SS/FFP Multinational Staged Improvement Program (Phase IX)	ent Program (P)	hace IV)		5,000					5,000
TBD TBD TBD TO	1Q98	145C 14)						TBD	TBD
TBD TBD TBD AIM-9X Integration (Blk 50/52)	1000							TBD	TBD
TBD TBD TBD 1001 BLK 30 Global Positioning System (CPS)	1Q01 m (CPS)							TBD	TBD
TBD TBD TBD TBD TBD TBD TBD TBD TBD TBD	2096					12,906	7,940	8,353	29,199
LMTAS SS/FPIF Other Complete Contracts	Sep 95	970	970		970				970
				943,130					943,130
Support and Management Organizations	ations								
			Pa	Page 8 of 9 Pages	S			Exhibit R-3	2-3





					1000		6 07 13/4		DATE	,	
RD	RDT&E PROGRAM ELEMENT	SRAM EL	EMEN 1/F	ROJECI	PROJECI COSI BREAKDOWN (R-3)	KEAKDO	WN (K-3	_		March 1996	1
BUDGET ACTIVITY 7 - Operational System Development	System De	evelopmen	Ħ		PE NUMBER AND TITLE 0207133F F-16	PE NUMBER AND TITLE 0207133F F-16 Squadrons	quadrons				
PROJECT NO. AND NAME 2671 F-16 Squadrons	AME					·					
Contractor or Government Performing <u>Activity</u> F-16 SPO (In- House Support) Other AF/DoD/ Contractor Spt	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to <u>FY 1995</u> 162,574 87,306	Budget FY 1995 13,448 2,344	Budget FY 1996 0	Budget FY 1997 8	Budget to Complete TBD TBD	Total <u>Program</u> TBD TBD	
Test and Evaluation Organizations Flight Tests Government Proj Orders Contractors SS/CPIF	n Organizations Proj Orders SS/CPIF	Jan 95 Feb 95	195,531	195,531		29,057	19,337	13,378	TBD	TBD CBT	
Government Furnished Property: Not Applicable	ished Property:	Not Applica	ble								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	evelopment nd Management 3valuation				1,485,302 249,880	135,775 118 28,337	119,763 61 22,378	TBD TBD GBT	180 180 081		
Total Project					1,735,182	164,230	142,202	TBD	TBD		***************************************
				I	Page 9 of 9 Pages	es			Exhibit R-3	R-3	

ACITACITIES II MATI TACCITO ASTOC		DATE
NOTAL BUDGET ITEM 303 IIFICATION	USIIFICATION SHEET (R-Z EXNIBIT)	March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0207134F F-15E Squadrons	
PROJECT NO. AND NAME		
0131 Total Program Element Cost		

COST (\$ In Thousands)	FY 1995 Actual	1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
0131 Total Program Element Cost	108,611	160,288	143,095	114,523	96,230	110,827	102,489	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

(LANTIRN), to meet the requirement for all-weather, deep penetration, and night/under-the-weather, air-to-surface attack. However, the threat includes a new generation against the threat into the next century. Avionics updates, exploiting proven technological advances, are being incorporated into the F-15E providing expanded capability The F-15E is the most versatile fighter in the world today. Configured with conformal fuel tanks (CFTs), the F-15E can deploy worldwide with minimal tanker Additionally, overall combat capability is increased by integration of a Very High Speed Integrated Circuit (VHSIC) Central Computer (CC). (The F-15E PE also funds and supporting an updated and fully integrated electronic warfare suite. As a result, this project develops enhanced offensive and defensive capability and survivability. RDT&E activities for PE # 0207130, F-15A-D). The F-15E, which received contract award approval in FY84, is an operational aircraft and therefore the development of aircraft possessing all-weather detection and kill capabilities. The F-15E's avionics, armament, airframe, and engines must be improved to maintain its superiority support and arrive combat-ready. The F-15E retains air superiority capability and adds systems, such as Low Altitude Navigation Targeting Infrared for Night activities in the PE are included in Budget Activity 7, Operational Systems Development.

(U) \$1,357 Continue R&D engineering efforts to support F-15E AISF.

Continue development and flight test of the OFP and flight testing of improvements initiated in prior years. Provide program office support. (U) \$29,488 (U) \$8,228

- (U) \$2,220 Continued improvements to -229 engine.

Software development, airframe component qualification, and flight test preparation for GE-129 engine. (U) \$5,970

(U) \$108,611 Tota

.

Page 1 of 7 Pages





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	PE NUMBER AND TITLE 0207134F F-15E Squadrons		Continue development and testing of F-15 improvements including GPS, ECCM, and APG-63 radar. Continue development of improvements attributed to parts obsolescence. Continue development of improvements attributed to parts obsolescence. Repair government furnished equipment used for R&D. Continue development of -229 engine improvements. Continue development of -229 engine improvements initiated in prior years. Complete software development, airframe component qualification, and flight test preparation for GE -129 engine. Expand development and testing of F-15 improvements including ECCM and APG-63 radar. Continue development and testing of F-15 improvements including ECCM and APG-63 radar. Continue development formished equipment used for R&D. Continue development of -229 engine improvements. Continue flight test of the OFP and flight testing of improvements initiated in prior years. Continue Programmable Armament Control Set (PACS) Upgrade.	
RE BUDGET ITEM	IDGET АСТІVITY - Operational System Development	lement Cost	Continue development and testing of F-15 improvement Continue OFP development efforts. Continue development of improvements attributed to pa Repair government furnished equipment used for R&D. Continue development of -229 engine improvements. Continue flight test of the OFP and flight testing of imp Complete software development, airframe component q Expand development of the Programmable Armament (Total Continue improvements attributed to parts obsolescence Repair government furnished equipment used for R&D. Continue development of -229 engine improvements. Continue development of -229 engine improvements. Continue flight test of the OFP and flight testing of imp Continue flight test of the OFP and flight testing of imp Continue Programmable Armament Control Set (PACS).	
RD	BUDGET ACTIVITY 7 - Operational Sys	PROJECT NO. AND NAME 0131 Total Program Element Cost	(U) FY 1996 - (U) \$83,514 - (U) \$34,235 - (U) \$7,700 - (U) \$1,900 - (U) \$11,883 - (U) \$13,000 - (U) \$13,000 - (U) \$13,000 - (U) \$13,000 - (U) \$13,000 - (U) \$1,000	

RDT&E BUDGET ITEM JUST	IFICATIO	TIFICATION SHEET (R-2 Exhibit)	R-2 Exhib	it)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207134F F-151	PE NUMBER AND TITLE 0207134F F-15E Squadrons	adrons	
PROJECT NO. AND NAME 0131 Total Program Element Cost					
(U) B. Program Change Summary (\$ in Thousands)					
				Total	
	FY 1995	FY 1996	FY 1997	Cost	
(U) Previous President's Budget	105,111	171,337	130,061	Continuing	
(U) Appropriated Value	108,562	171,337)	
(U) Adjustments to Appropriated Value					
a. BTR	-499				
b. General Congressional Reductions	-1,185	-3,355			
c. SBIR	-2,266	-4,074		-	
d. Omnibus and other ATR		-3,620			
(U) Adjustments to Budget since FY96 PB	3,999		17,383		
(U) Current Budget Submit/President's Budget	108.611	160.288	-4,349 143 095		
	`				
(U) Change Summary Explanation:		•	•		

Funding: \$17.383 million added in FY97 for flight test of OFP suites and other modifications. \$3.999M added in FY95 for software development, airframe component qualification, and flight test preparation for GE-129 engine. \$4.349 cut in FY97 due to inflation adjustment.

Schedule: No changes

Technical: No changes

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RDT&E BUDGET ITEM JUS	M JUST	FICATION	TIFICATION SHEET (R-2 Exhibit)	T (R-2 E	xhibit)		DATE .	March 1996	
BUDGET ACTIVITY 7 - Operational System Development			PE NUMBEI 020713	PE NUMBER AND TITLE 0207134F F-15E	PE NUMBER AND TITLE 0207134F F-15E Squadrons	ns			
PROJECT NO. AND NAME 0131 Total Program Element Cost									
(U) C. Other Program Funding Summary (\$ in Thousands)	housands)								
The state of the s	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	$\overline{\mathrm{FY}\ 2001}$	To Compl	Total Cost
	183,245	87,285 6,742 6,742	179,442 179,318 11,080	242,181 8,229	245,568 8,254 30,763	251,095 8,271 38,181	239,620 8,327 31,422	OBT OBT OBT	
(U) Aircrait Frocurement BF 10 (linital Spates)	70,000	71,5,70	10,233	10,000	70,70	101,00	77,17		
(U) D. Schedule Profile									
	FY 1995	4	FY 1996 2 3	96 3	1 日	FY 1997 2 3	4		
(U) AF Mission Support System Training	ı		×						
(U) PACS CDR Complete				×			>		
(U) FACS DIÆE Start (U) ECCM OTÆE Fight Test			×				4		
(U) OFP Suite 3 (U) MSIP DT&E Start				×					
(U) E-Model DT&E Start				×	>				
(U) MSIP Release					٩		×		
(U)APG-63 CDR				×		>			
(U) APG-63 Ground Integration Test Start (U) GE-129 Engine Qual Test Complete					×	∢			
		ſ	ţ				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	c	
		F	rage 4 of / rages	ges			EXHIDIE	N-2	

RDT&E PROGRAM ELEMENT/P	/PROJECT C	OST BREAK	ROJECT COST BREAKDOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207134F F-15E	LE 5E Squadrons	
PROJECT NO. AND NAME 0131 Total Program Element Cost				
(U) A. Project Cost Breakdown (\$ in Thousands)				
	FY 1995	FY 1996	FY 1997	
(U) Flight Test	28,131	17,883	21,876	
(U) OFP	1,357	34,235	37,775	
(U) ECCM	2,741	2,100	006	
(U) Mission Support	8,228	0	0	
(U) Ar G-03V (Anticinia Study) (II) AF Mission Support System (AFMSS)	3 291	009'6/	61,300	
(U) GPS	3,291	1 814	0	
(U) GFE/GFP Repair	0,000	4,614	1 044	
(U) Falcon -229	2,220	1,900	1,000	
(U) Parts Obsolescence	0	7,700	7,200	
(U) PACS Upgrade	0	13,000	12,000	
(U) Development for GE -129 Engine	5,970	1,229	0	
(U) Avionics Integrated Support Facility (AISF)	1.357	0	0	
(U) Miscellaneous	517	0 .	0	
(U) Total	108,611	160,288	143,095	
	æ			
	os.			
	Page	Page 5 of 7 Pages		Exhibit R-3





RDT	RDT&E PROGRAM ELEMENT	RAM ELE		PROJECT COST BREAKDOWN (R-3)	COST BI	REAKDO	WN (R-3		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	System De	velopment			PE NUMBER AND TITLE 0207134F F-15	ш	Squadrons	s			
PROJECT NO. AND NAME 0131 Total Program Element Cost	ME am Element C	ost									
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	uisition History	y and Planning	<u>r</u> Information	(\$ in Thousan	(sp)						
Performing Organizations:	zations:										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations McAir/Eglin/	nt Organizations		4,154	4,154	3,642	0,517				4,159	
Wright Labs McAir (ECCM) McAir (AFMSS)	CPFF	Feb 94 Aug 92	9,850	9,850 14,791	4,109 11,500	2,741 3,291	2,100	0,900		9,850 14,791	
McAir (GPS)	CPFF FFP	Jun 88 Mar 94	7,707	7,707	5,575 2,300	3,307	1,814			5,575 7,421	
P&W (-229 Eng) GF (-129 Eng)	CPAF	Sep 94	6,520 7,199	6,520 7,199	1,400	2,220 5,970	1,900 1,229	1,000		6,520 7,199	
McAir (GFE/GFP) OFP Development	FFP	Dec 93	5,405 240,080	5,405 240,080	0,500	0 1,357	0,827	1,044	3,054 160,188	5,425 238,280	-
McAir APG63 (Feasibility Study) (Risk Reduction)	CPFF CPFF	Feb 94 Feb 94	0,778 9,892 234,628	0,778 9,892 234,628	0,778 9,892 4.336	51 497	79 600	61 300	37 900	0,778 9,892 234.628	
(EML) McAir (HMCS	Ta Car	t doc	14,400	14,400	,				14,400	14,400	
A-D) PACS Upgrade Wright Lab (Parts	MIPR/PRs	May 95 Sep 94	26,682 36,147	26,682 36,147	4,346	0	13,000 7,700	12,000 7,200	1,682 16,901	26,682 36,147	
obsolescence) McAir (AIM9X)			14,200	14,200					14,200	14,200	
				P	Page 6 of 7 Pages	ges			Exhibit R-3	R-3	
					1340						

RDT&	E PROG	RDT&E PROGRAM ELEMENT/F	EMENT/P	PROJECT	COSTB	REAKDO	COST BREAKDOWN (R-3)	3	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	ystem De	velopment			PE NUMBER AND TITLE 0207134F F-15	AND TITLE	D TITLE F-15E Squadrons	SI		
PROJECT NO. AND NAME 0131 Total Program Element Cost	ו Element C	ost								
Contractor or Co Government M Performing or Activity Vo IDAM ADP(E) MPDP(E)	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity EAC 63,300 5,617 18,400 5,000	Project Office EAC 63,300 5,617 18,400 5,000	Total Prior to <u>FY 1995</u>	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete 63,300 5,617 18,400 5,000	Total Program 63,300 5,617 18,400 5,000
Support and Management Organizations (Mission Support) Misc.	<u>ment Organizati</u> Misc.	<u>suoi</u>			8,480	8,228	0	0	0	16,708
Test and Evaluation Organizations McAir (Flt Test) FFP Loral (Flt Test) FFP Edwards (OFP) PO Eglin (Flt Test) PO	ganizations TP TP TP	Oct 96 Oct 96 Oct 96			26,145 1,400 7,592 1,546	11,065 15,700 2,723	4,400 11,783 1,700	9,000	37,500 64,808 6,500	88,110 1,400 111,334 12,469
(U) B. Budget Acquisition History and Planning Information Government Furnished Property: Not Applicable	<u>ition History</u> Property: N	and Planning Tot Applicable	Information	Continued (\$ in Thousands)	in Thousands	æ				
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	pment anagement ation				51,678 8,480 36,683	142,405 0 17,883 160,288	122,644 0 20,451 143,095	340,642 0 108,808 449,450	728,264 16,708 213,313 958,285	
				Pag	Page 7 of 7 Pages	\$2		·	Exhibit R-3	R-3





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICAT	ION SH	IEET (R	-2 Exhib	it)		DATE M	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development			PE NU 020	PE NUMBER AND TITLE 0207136F Mani	DE NUMBER AND TITLE OSTRUCTIVE SUPRESSION	estructiv	e Supres	sion		
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	36,233	10,354	12,384	11,914	2,365	473	380	380	Continuing	TBD
4375 F-15 Manned Destructive SEAD (MDS)	36,233	0	0	0	0	0	0	0	0	44,209
2671 F-16 HARM Targeting System (HTS) See Note	0	5,792	12,384	11,914	2,365	473	380	380	Continuing	ТВD
4516 Light Defender	0	4,562	0	0	0	0	0	0	0	5,484
This program funds the development and procurement of the Air Force's Manned Destructive Suppression of Enemy Air Defenses (SEAD) capability. The AGM-88 High-Speed Anti-Radiation Missile (HARM) is the primary weapon for SEAD. The program allows certain F-16 aircraft to carry and employ the HARM. The Block High-Speed Anti-Radiation Missile (HARM) is the primary weapon for SEAD. This system allows real-time, "range known" HARM employment. This 50 F-16C has been modified to carry the AN/ASQ-213 HARM Targeting System (HTS). This system allows real-time, "range known" HARM employment. This capability is necessary due to the phase out of the F-4G Wild Weasel. The F-15 was to be modified with the Precision Direction Finding (PDF) system, but this effort was terminated in the FY96 BES due to fiscal constraints and better than expected capability reports from units equipped with the fielded F-16 HTS. Also, the Air Force began studying the Preemptive Destruction of Enemy Air Defenses in Jan 94 under PE 0605808F, Development Planning. The Preemptive Destruction program evaluates weapons and decoys that aid in the destruction of enemy air defenses before they can engage friendly aircraft. The program is scheduled for a Milestone I/II review in 3Q FY97. Because this program element provides for the development of upgrades for the F-15 and F-16 (both are operational systems Development.	stification urement of the primar ASQ-213 HA the F-4G William of Enemy id in the dest is program (a) in program (b) in program (c) in the dest is program (c) in the dest is program (c) in the dest is program (c) in the dest is program (c) in the dest is program (c) in the dest is program (c) in the dest is program (c) in the dest is program (c) in the dest in the	he Air Force y weapon for RM Targetii Id Weasel. In Weasel. And better that y Air Defens ruction of en element provent is included	's Manned I r SEAD. Th ng System (I The F-15 wa an expected ies in Jan 94 temy air defi ides for the in the Budg	Destructive S he program a HTS). This is to be modi capability re under PE 0 enses before development et Activity/R	the Air Force's Manned Destructive Suppression of Enemy Air Defenses (SEAD) capability. The AGM-1 sty weapon for SEAD. The program allows certain F-16 aircraft to carry and employ the HARM. The Bl ARM Targeting System (HTS). This system allows real-time, "range known" HARM employment. This sild Weasel. The F-15 was to be modified with the Precision Direction Finding (PDF) system, but this eff and better than expected capability reports from units equipped with the fielded F-16 HTS. Also, the Air was Air Defenses in Jan 94 under PE 0605808F, Development Planning. The Preemptive Destruction struction of enemy air defenses before they can engage friendly aircraft. The program is scheduled for a element provides for the development of upgrades for the F-15 and F-16 (both are operational weapons is included in the Budget Activity/Research Category Operational Systems Development.	of Enemy Ai n F-16 aircra s real-time, Precision I mits equippe welopment I age friendly for the F-1:	r Defenses (if to carry a lrange kno Direction Fin de with the Planning. T aircraft. T 5 and F-16 (tional Syste	SEAD) caps nd employ t wn" HARM iding (PDF) ielded F-16 he Preempti he program both are ope ms Developi	s (SEAD) capability. The AGM and employ the HARM. The Elown" HARM employment. Thi inding (PDF) system, but this estilled F-16 HTS. Also, the A The Preemptive Destruction The program is scheduled for a 5 (both are operational weapons tems Development.	AGM-88 The Block This this effort the Air on for a poons
(U) B. Program Change Summary (\$\subseteq\$ in Thousands) (U) Previous President's Budget (U) Appropriated Value	(spur	36,233 37,422	최	2,908 2,908 10,908	FY 1997 0	2 E	rotai TBD		j.	
Ad a d		(408) (781)	~ _	(214) (231)						
 c. Omnibus or Other Above Threshold Keprogramming d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY96 PB (U) Current Budget Submit/President's Budget 	gramming	36,233		(109)	12,384 12,384	77	TBD TBD			
			Page 1 of 15 Pages	15 Pages				Exhibit R-2	2-2	

RDT&E BUDGET ITEM JUSTIFICATION	TIFICATION SHEET (R-2 Exhibit)	ге March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0207136F Manned Destructive Supression	uc

B. Program Change Summary (\$ in Thousands) - (Continued) (U) Change Summary (U) Change Summary (U) Change Summary Explanation:

Funding: The Air Force increased funding to upgrade the F-16's HARM Targeting System (HTS). Congress also increased the PE's appropriation by \$8,000,000 during the FY96 Appropriations Conference: \$5,000,000 for Light Defender and \$3,000,000 for the HTS upgrade.

- HTS: The AF increased RDT&E funding \$31,000,000 beginning in FY97 to upgrade the F-16 HTS. Congress approved an \$11,100,000 transfer from the F-15 MDS project and added \$3,000,000 to the AF's FY96 PB to allow the AF to begin the HTS upgrade in Feb 96. Estimated total RDT&E for the HTS upgrade is \$45,000,000.
- Light Defender: Light Defender will be evaluated as a foreign comparative test under PE 0605130D. This project was initially funded in FY95 as part of the Preemptive Destruction project using funds from the terminated F-15 Manned Destructive Suppression project. Congress increased the FY96 PB \$5,000,000 to expand the scope of the Light Defender foreign comparative test to include operational testing.

- AF began an HTS upgrade in Feb 96. AF linked the HTS upgrade to the F-16 Operational Flight Program (OFP) schedule to achieve HTS IOC in FY99.
- Light Defender test planning began in Sep 95, and testing is expected to continue through mid-late FY97.
- AF terminated the F-15 MDS production program in Jul 95. A restructured F-15 Dem/Val was awarded Mar 96 to provide risk reduction information for other suppression programs such as the Navy's competition for a Joint Emitter Targeting System. The restructured Dem/Val expects to complete in 4Q FY96

Technical: The AF completed the technical evaluation of HTS upgrade options in Jun 95 and began the HTS upgrade in Feb 96. The AF also returned the sustaining engineering costs mistakenly dropped during the 96 President's Budget to provide continued integration of HTS for minor HTS or F-16 software updates.

C. Other Program Funding Summary (\$ in Thousands)

					•			10	ıolaı
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	Compl	Cost
(U) HTS Aircraft Procurement, AF PE 0207136F	Note 1	3,142	108	9,192	397	202	197	Continuing	TBD
(U) HTS Ops & Maintenance, AF PE 0207136F	Note 1	4,693	4,789	5,183	4,769	3,192	2,881	Continuing	TBD
(U) Foreign Comparative Tests, OSD PE 0605130D	78	2,700						0	2778
Related RDT&E: PE 0207130F, F-15C Squadrons PE 0207134F, F-15E Squadrons	•	· PE 020	PE 0207133F, F-16 Squadr	Squadrons		I I	PE 0605808F, PE 0605130D,	, Development Planning , Foreign Comparative	Planning parative Tests

Notes: FY95 and prior year HTS funding reported under a separate program element. The exceptions are \$5,400,000 RDT&E reprogrammed into this PE from FY93 & FY94 and \$11,100,000 FY95 RDT&E realigned to the HTS project in FY96.

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Page 2 of 15 Pages



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207136F Manned Destructive Supression	
U) D. <u>Schedule Profile</u>		
$\frac{\text{FY } 1995}{1}$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	FY 1998
n 1)
(U) F-16 HTS R5 Software Development	×	
(U) F-16 HTS Upgrade Development	*	
(U) Light Defender FCT	*	
PDF = Precision Direction Finding HTS = HARM Targeting System FCT = Foreign Comparative Test		
P	Page 3 of 15 Pages	Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FEM JUS	TIFICA	TION S	HEET (R	-2 Exhil	oit)		DATE	March 1996	6
BUDGET ACTIVITY 7 - Operational System Development	t		PE NU 020	PE NUMBER AND TITLE 0207136F Mani	PE NUMBER AND TITLE O207136F Manned Destructive Supression	estructiv	e Supres			
PROJECT NO. AND NAME 4375 F-15 Manned Destructive SEAD (MDS)	(1									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	Cost to Complete	Total Cost
4375 F-15 Manned Destructive SEAD (MDS)	36,233	0	0	0	0	0	0	0	0	44,209
(U) A. <u>Mission Description and Budget Item Justification</u> The Manned Destructive Suppression (MDS) program provides funds for the development and procurement of the Air Force's planned systems to suppress enemy air defenses. The AGM-88 High-Speed Anti-Radiation Missile (HARM) is the primary weapon for MDS. This project provided the F-15 aircraft the capability to carry and employ the HARM. This capability was necessary due to the phase-out of the F-4G Wild Weasel. The F-15 was to be modified with a Precision Direction Finding (PDF) system to allow real-time HARM employment. This effort was terminated due to fiscal constraints and better than expected capability reports from units equipped with the fielded F-16 HARM Targeting System.	program provilation Missil Interessary due	ides funds i e (HARM) i to the phass int. This et	ides funds for the development and procurement of the Air Force's planned systems to suppress ene e (HARM) is the primary weapon for MDS. This project provided the F-15 aircraft the capability to to the phase-out of the F-4G Wild Weasel. The F-15 was to be modified with a Precision Direction nt. This effort was terminated due to fiscal constraints and better than expected capability reports tem.	opment and y weapon for 4G Wild vinated due	procurement r MDS. Thi Veasel. The to fiscal conc	t of the Air Is project pro F-15 was to straints and	orce's plam vided the F. be modified better than e	ned systems to aircraft to with a Precixy	to suppress e he capability ision Directi ability repor	nemy air to carry on is from
Project Type New Start X Termination Not Applicable										
(U) FY 1995 (U) \$14,565 Complete PDF Demonstration/Validation. (U) \$14,565 Complete PDF Demonstration/Validation. (U) \$7,000 Initiated Programmable Armament Control Set (PACS) upgrade portion of the HARM Integration project. Effort Completed in PE 0207134F (U) \$1,896 Started PDF COEA but redirected efforts to F-16 alternatives studies and the Navy's Joint Emitter Targeting System COEA (U) \$24,211 Project Subtotal (U) \$11,100 Realigned with HARM Targeting System to accelerate the HTS Upgrade. (U) \$11,100 Realigned with HARM Targeting System to accelerate the PE 0.007134F F-15F Squadrons)	nstration/Valible Armament ut redirected ter Foreign C A Targeting S	dation. Control Se efforts to F- omparative lystem to ac	idation. Control Set (PACS) upgrade portion of the HARM Integration project. Effort Complete efforts to F-16 alternatives studies and the Navy's Joint Emitter Targeting System COEA omparative Test system to accelerate the HTS Upgrade.	grade portio es studies ar TTS Upgrad	n of the HAF id the Navy's le.	8M Integrati s Joint Emiti ms)	on project. ier Targetin	Effort Comp g System CC	oleted in PE (3207134F
			Page 4 of 15 Pages	5 Pages		(611)		Exhibit R-2	5	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (F	8-2 Exhibit		DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207136F Mani	TITLE Manned Des	PENUMBER AND TITLE 0207136F Manned Destructive Supression	ion
PROJECT NO. AND NAME 4375 F-15 Manned Destructive SEAD (MDS)				
(U) B. Program Change Summary (\$ in Thousands)			Total	
	FY 1996 0	FY 1997 0	Cost	
(U) Adjustments to Appropriated Value a. General Congressional Reductions: (A08) b. SBIR: (U) Adjustments to Budget Years Since FY96 PB (U) Current Budget Submit/President's Budget (24,211)	0	0	44,209	
(U) Change Summary Explanation: Funding: AF realigned \$11,100,000 to HTS project due to the termination of F-15 MDS project. The PE retained funding to support the study of alternatives to F-15 MDS as well as to related suppression efforts such as Light Defender and the PACS upgrade. The PACS upgrade project transitioned to the F-15 PE 0207134F in FY96. \$922,000 initiated in FY95 under this project for the Light Defender FCT supports the Preemptive Destruction project.	tion of F-15 MDS pater and the PACS up the Light Defender	roject. The PE : pgrade. The PA ?CT supports the	retained funding to supp ICS upgrade project tra	port the study of alternatives to insitioned to the F-15 PE in project.
Schedule: Due to the termination of the production F-15 MDS program the F-15 Dem/Val was restructured to provide risk reduction information that will support other suppression programs such as the Navy's competition for a Joint Emitter Targeting System. The restructured Dem/Val expects to complete in 4Q FY96.	the F-15 Dem/Val Emitter Targeting S	was restructured ystem. The rest	l to provide risk reductic ructured Dem/Val expec	
Technical: The restructured F-15 MDS Dem/Val limits the planned effort to a 9 sortie flight demonstration of low cost conformal antenna technology combined with two emitter location technologies to support the preemptive destruction mission.	ort to a 9 sortie flig ction mission.	ht demonstration	n of low cost conformal	antenna technology combined
(U) C. Other Program Funding Summary (S in Thousands) Related RDT&E: PE 0207130, F-15C Squadrons PE 0207134, F-15E Squadrons	PE 060580 PE 060513	PE 0605808, Development Planning PE 0605130D, Foreign Comparative Tests	Planning mparative Tests	
(U) D. Schedule Profile: Restructure of the F-15 MDS Dem/Val delayed completion until 4Q FY96.	npletion until 4Q F	Y96.		
$\frac{\text{FY } 1995}{1}$	FY 1996 1 2 3	4 1	$\frac{\text{FY } 1997}{2} \qquad \qquad 4$	$\frac{\text{FY } 1998}{1 \qquad 2 \qquad 3 \qquad 4}$
(U) F-15 PDF Demonstration/Validation (U) Flight Demonstration (Jul-Aug 96) X				
Pa	Page 5 of 15 Pages			Exhibit R-2

	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ROJECT (DATE March 1996
8UD 7 -	вирсет астіліту 7 - Operational System Development		PE NUMBER AND TITLE 0207136F Manned Destructive Supression	
PRO. 437	PROJECT NO. AND NAME 4375 F-15 Manned Destructive SEAD (MDS)			
(a)	(U) A. Project Cost Breakdown (80 in Thousands)			
		FY 1995	<u>FY 1996</u>	
<u> </u>	Precision Direction Finding (PDF): Hardware Development Software Development Systems Engineering/Program Management	4,430 8,575 1,560	Program Terminated	
9	Programmable Armament Control Set (PACS) Upgrade: Hardware Development Software Development Systems Engineering/Program Management Integrated Logistics Support	2,300 3,700 800 200	Project Transferred to F-15 PE 0207134F	
(£)	Cost & Operational Effectiveness Analysis (COEA): F-16 Alternative Studies Navy Joint Emitter Targeting System Studies Preliminary F-15 MDS Studies	1,300 225 371		
<u>(c)</u>	Mission Support	750		
9	(U) Total	24,211		
<u>(c)</u>	Preemptive Destruction of Enemy Air Defenses Demos: Light Defender Foreign Comparative Test	922	Transferred to Project 4615	
5	Realigned to HARM Targeting System	11,100	Transferred to Project 2671	
		Page	Page 6 of 15 Pages	Exhibit R-3





RDT&	RDT&E PROGRAM ELEMENT/	MELEM	ENT/PRO	JECT C	PROJECT COST BREAKDOWN (R-3)	EAKDOW	/N (R-3)	DA	DATE March 1996	1996
BUDGET ACTIVITY 7 - Operational System Development	vstem Develo	opment			PE NUMBER AND TITLE 0207136F Mani	ND TITLE Manned I	TITLE Manned Destructive Supression	Supressi	ion	
PROJECT NO. AND NAME 4375 F-15 Manned Destructive SEAD (MDS)	Destructive SEA	ND (MDS)								
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	sition History and	Planning In	formation (\$ ir	1 Thousand	ଜ					
Performing Organizations:	ions:									
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Product Development Organizations McDonnell Douglas SS/CPA Aerospace, St Louis	Organizations SS/CPAF				13,404	21,565	Program 1	Program Terminated		34,969
Support and Management Organizations Air Force Materiel Command, ASC,	ent Organizations nmand, ASC,				6,594	750	Program ⁵	Program Terminated		7,344
F-15 Program Office Air Force Materiel Command, ASC,	nmand, ASC,					1,300	Program [Program Terminated		1,300
F-16 Program Office Air Force Air Materiel Command, ASC,	Command, ASC,					251	Program [Program Terminated		251
Plans & Requirements Naval Air Systems Command	nmand					345	Program	Program Redirected		345
Test and Evaluation Organizations	rganizations									
Total Project					19,998	24,211	Program	Program Terminated		44,209
(U) Government Furnished Property: Not Applicable.	ished Property:]	Not Applicabl	<u>ö</u>							
				Pag	Page 7 of 15 Pages	S			Exhibit R-3	

	RDT	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA.	TION SI	IEET (R	-2 Exhil	bit)		DATE M	March 1996	و
™	BUDGET ACTIVITY 7 - Operational System Development	em Development			PE NU 020	PE NUMBER AND TITLE 0207136F Manr	TITLE Nanned D	PE NUMBER AND TITLE OZO7136F Manned Destructive Supression	re Supres			
PR 2 (PROJECT NO. AND NAME 2671 F-16 HARM Targeting System (HTS) See Note	ting System (HTS) S	ee Note									
	COST (\$01)	COST (\$0 In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	Cost to Complete	Total Cost
26	2671 F-16 HARM Targeting System (HTS) See Note	ystem (HTS) See Note	0	5,792	12,384	11,914	2,365	473	380	380	Continuing	TBD
(· '	A. Mission Description and Budget Item Justification The program provides F-16 aircraft the capability to carry and employ the AGM-88 High-speed Anti-Radiation Missile (HARM). The Block 50 F-16C has been modified to carry the AN/ASQ-213 HARM Targeting System (HTS). This capability allows real-time, "range known" HARM employment. Because of the phase out of the F-4G Wild Weasel the F-16 has become the USAF's only platform for employing the HARM in the lethal SEAD mission. The HTS was fielded in FY94. This project develops performance upgrades and funds integration effort to remain compatible with the F-16C and associated support and training equipment.	tification ity to carry a rgeting Syste the USAF's ds integration	and employ am (HTS). Tonly platfor an effort to r	the AGM-88 This capabili m for emplo: emain comp	High-spect ty allows re ying the HA	1 Anti-Radia al-time, "rar .RM in the le the F-16C ar	ntion Missile nge known" ethal SEAD nd associated	(HARM). THARM emp mission. The support and	The Block 50 loyment. Be he HTS was 1 training eq	F-16C has scause of the fielded in Figurement.	been phase out 794. This
	Project Type New Start Termination X Not Applicable											
l	(U) <u>FY 1995</u> (U) \$11,100	Realigned from F-15 MDS project 4375. Major effort reported under a classified Program Element.	DS project 4	375. Major	effort repor	ted under a	classified Pr	rogram Elem	ent.			
1111	(U) \$\frac{\text{FY 1996}}{\text{\$\$432}}\$ (U) \$\frac{\text{\$\$1,060}}{\text{\$\$3,000}}\$ (U) \$\frac{\text{\$\$3,000}}{\text{\$\$5,792}}\$ (U) \$\frac{\text{\$\$\$5,792}}{\text{\$\$\$5,792}}\$	Complete R5 software upgrade and the developmental flight test support (Mar 96) Develop HTS-specific Air Force Mission Support System (AFMSS) modifications Begin EMD on HTS Upgrade (Feb 96) Mission Support	ipgrade and Vir Force Mi ograde (Feb	the developi ssion Suppo 96)	mental flight rt System (A	t test suppor FMSS) moo	t (Mar 96) difications					
111	(U) \$\frac{\text{FY 1997}}{\text{\$\$\$\$11,084}}\$ (U) \$\text{\$\$\$\$\$1,300}\$ (U) \$\text{\$\$\$\$\$1,384}\$	Continue EMD of HTS Upgrade. (IOC Jul 99) Mission Support (cont.) Total	Upgrade. (I	OC Jul 99)			•					WWW. 4480000
					Page 8 of 15 Pages	5 Pages				Exhibit R-2	-5	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICATIC	N SHEET	(R-2 Exhibit)	DATE March 1996	
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207136F Man	PENUMBER AND TITLE 0207136F Manned Destructive Supression	ression	
PROJECT NO. AND NAME 2671 F-16 HARM Targeting System (HTS) See Note					
(U) B. Program Change Summary (\$ in Thousands)	FY 1995	FY 1996	<u>FY 1997</u>	Total Cost	
(U) Previous President's Budget	Note	2,908	0	TBD	
(U) Appropriated Value	Note	2,908			
(U) Adjustments to Appropriated Value		(116)			
b. SBR:		(211)			
(U) Adjustments to Budget Years Since FY96 PB	11,100	1	12,384	1	
(U) Current Budget Submit/President's Budget		5,792	12,384	TBD	
NOTE: FY95 and prior year HTS funding reported were under a separate program element. The exceptions are \$5,400,000 RDT&E reprogrammed into this PE from FY95 and \$11 100 000 FY95 RDT&E realigned to the HTS project in FY96.	separate prog HTS project in	ram element. The FY96.	exceptions are \$5,400,000 RDT&F	! reprogrammed into this PE fr	E

FY93 & FY94 and \$11,100,000 FY93 KD1&E reangned to the fils project in F190.

(U) Change Summary Explanation:

Funding: The AF programmed a F-16 HTS upgrade by adding \$31,000,000 beginning in FY97during the FY97 BES. Congress supported an acceleration to FY96 by increasing the FY96 appropriation \$3,000,000 to begin the HTS upgrade and approved the realignment of \$11,100,000 from the terminated F-15 MDS project. This latest upgrade is estimated at \$45,000,000 RDT&E. Future upgrades are TBD.

Schedule: The HTS upgrade began Feb 96 and will complete in FY99 based upon the current F-16 Operational Flight Program (OFP) schedule.

Technical: The AF accelerated the HTS upgrade based on options developed during the prototyping study completed in Jun 95.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUST	IFICAT	HS NO!	EET (R	2 Exhit)jį		DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development			PE NUN 0207	PE NUMBER AND TITLE 0207136F Manr	TLE anned D	TITLE Manned Destructive Supression	e Supre		
PROJECT NO. AND NAME 2671 F-16 HARM Targeting System (HTS) See Note	ee Note								
(U) C. Other Program Funding Summary (\$ in Thousands)	Thousands)								
(U) Aircraft Procurement, AF PE 0207136F	<u>FY 1995</u> I	FY 1996 3,142	FY 1997 108	FY 1998 9,132	FY 1999 397	FY 2000 202	FY 2001 197	To Compl Continuing	Total <u>Cost</u> TBD
NOTE: Prior to FY96 the HTS was funded under a separate PE, replenishment spares. FY98 funds the procurement of the HTS 1		. FY97-FY0 upgrade.	l procureme	nt funding i	ncludes inte	rim contract	or support	FY97-FY01 procurement funding includes interim contractor support (ICS), initial spares and ipgrade.	pares and
(U) Operations & Maintenance 0 4,693 4,789 5,1 NOTE: FY97-FY01 funding includes Air Force MSS (AFMSS) sustaining support, contracto maintenance, program office support (beginning in FY99) and other related support activities.	0 SS (AFMSS) su FY99) and oth	4,693 Istaining si er related s	4,789 apport, conti upport activ	5,183 ractor sustaii ities.	4,769 ning suppor	3,192 t, depot repa	2,881 ir, Field Re	Continuing programming	4,693 4,789 5,183 4,769 3,192 2,881 Continuing TBD sustaining support, contractor sustaining support, depot repair, Field Reprogramming Equipment (FRE) ther related support activities.
Related RDT&E: PE 0207133, F-16 Squadrons.									
(U) D. <u>Schedule Profile</u>	FY 1995	-	FY	FY 1996	-	FY 1997	<i>L</i> <i>c</i>	<u>τ</u> .	
(U) F-16 HTS R5 SW Development (U) R5 Fielded (Mar 96) (U) F-16 HTS Upgrade EMD (Jul 99) (U) Flight Test (Jul 99)	× × *		•		*	ı		1	t n
			Page 10 of 15 Pages	5 Pages				Exhibit R-2	
			1251						
		5	UNCI	SIFIED					



RDT&E PROGRAM ELEMENT/PRO.	JECT COS	T BREAK	PROJECT COST BREAKDOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NU 020	PE NUMBER AND TITLE 0207136F Mani	PENUMBER AND TITLE 0207136F Manned Destructive Supression	sion
PROJECT NO. AND NAME 2671 F-16 HARM Targeting System (HTS) See Note		,		
(U) A. Project Cost Breakdown (\$\sin \text{Thousands})	FY 1995	FY 1996	FY 1997	
(U) HTS R5 Software Upgrade (U) Test & Evaluation	Note	432 0		
		0		
ment	11,100	2,400	8,000	
	0	009	1,000	
(U) Test & Evaluation	0	0	1,000	
(U) Training & Support Equip Development		1,060 0	1,084	
(U) Mission Support	Note	1,300	1,300	
(U) Total	11,100	5,792	12,384	
NOTE: FY95 and prior year HTS funding reported under a separate program element. The exceptions are \$5,400,000 RDT&E reprogrammed into this PE from FY93 & FY94 and \$11,100,000 FY95 RDT&E realigned to the HTS project in FY96.	rogram element. FY96.	The exceptions	are \$5,400,000 RDT&E reprogra	mmed into this PE from FY93 &

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RDT	RDT&E PROGRAM ELEMENT/	SRAM EL	EMENT/P	ROJEC	PROJECT COST BREAKDOWN (R-3)	BREAKD	OWN (R	-3)	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	System De	velopmer	jt.		PE NUMBER ANI 0207136F	PE NUMBER AND TITLE 0207136F Manr	ned Destri	> TITLE Manned Destructive Supression			
PROJECT NO. AND NAME 2671 F-16 HARM Targeting System (HTS) See Note	^{NE} Targeting Sy	stem (HTS)	See Note								
(U) B. Budget Acquisition History and Planning Information (S in Thousands)	nisition Histor	y and Planni	ng Information	(S in Thous	ands)						
Performing Organizations:	ations:										
Contractor or Government N Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 199 <u>6</u>	Budget FY 1997	Budget to <u>Complete</u>		Total Program
Product Development Organizations Texas Instruments SS/CPAF Texas Instruments SS/CPAF Lockheed Ft Worth TBD ASC/YT (Trainers) AFMSS Classified	Organizations SS/CPAF SS/CPAF TBD	Various Jan 96 Various Various	TBD 32,000 TBD TBD TBD	TBD 32,000 4,500 TBD	5,400 0 0	11,100	0 2,400 600 1,000 60	0 8,000 1,000 500 584	10,3 2,9 TE	5 10,500 32 2,900 4, TBD T TBD T	5,400 32,000 4,500 TBD TBD
Support and Management Organizations Prog. Office Supt	nent Organizat Various	<u>ions</u> Various			0		1,300	1,300	TBD		TBD
Test and Evaluation Organizations Eglin PO Edwards PO	<u>Organizations</u> PO PO	Various Various			Note		432	1,000	2,500		432 3,500
Total Project					5,400	11,100	5,792	12,384	TBD		TBD
NOTE: FY95 and prior year HTS funding reported under a separate program element, with the exception of \$5,400,000 RDT&E reprogrammed into this PE from FY93 & FY94 and \$11,100,000 FY95 RDT&E realigned to the HTS project in FY96.	or year HTS fu 000 FY95 RD1	nding reporte F&E realignec	d under a separ I to the HTS pro	ate program vject in FY96	element, with	the exception	of \$5,400,00	0 RDT&E reprog	grammed into this	PE from F	793

Government Furnished Property: Not Applicable.

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RDT&E BUDGET ITEM JU	EM JUS	TIFICAT	ION S	HEET (R	JSTIFICATION SHEET (R-2 Exhibit)	oit)		DATE IV	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development			PE NI 020	PE NUMBER AND TITLE 0207136F Mani	TITLE Manned Destructive Supression	estructiv	e Supres	ssion		
PROJECT NO. AND NAME 4516 Light Defender										
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	Cost to Complete	Total Cost
4516 Light Defender	0	4,562	0	0	0	0	0	0	0	5,484
(U) A. Mission Description and Budget Item Justification This program investigates options for the Air Force's preemptive destruction on enemy air defenses capability. The Light Defender program expands the scope of the system's Foreign Comparative Test (FCT) to provide initial operational evaluations (including flight tests) as an alternative system.	stification Force's preer to provide in	nptive destru itial operatic	iction on en	emy air defe ions (includ	nses capabili ing flight test	ty. The Lig	ht Defender ernative syst	program e: em.	xpands the s	cope of
(U) FY 1996 (\$ in Thousands): - (U) 4,562 Light Defender Operational Testing - (U) 4,562 Total	nal Testing									
(U) B. Program Change Summary (\$ in Thousands)	(spur									
(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Value		FY 1995		FY 199 <u>6</u> 0 5,000	FY 1997	5 2	Total <u>Cost</u>			
	gram PB	922	2 2	(98) (231) (109) 4,562		5,484	8			
			Page 13 of 15 Pages	'15 Pages				Exhibit R-2	2-2	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHEET (R-2 Exhibit)	E March 1996
BUDGET ACTIVITY 7 - Operational System Development PROJECT NO. AND NAME 4516 I ight Defender	PE NUMBER AND TITLE 0207136F Manned Destructive Supression	
(U) Change Summary Explanation: Funding: This project was initiated in FY95 under the OSD PE 0 terminated F-15 MDS project. The OSD FCT PE funded the FY96 the scope of the FCT to include operational evaluations.	ange Summary Explanation: Funding: This project was initiated in FY95 under the OSD PE 0605130D, Foreign Comparative Test and supported with \$922,000 of FY95 funds from the terminated F-15 MDS project. The OSD FCT PE funded the FY96 effort and Congress increased this project's appropriation \$5,000,000 (in this PE) to expand the scope of the FCT to include operational evaluations.	of FY95 funds from the ,000 (in this PE) to expand
Schedule: Test Planning has began in Sep 95, Flight test is scheduled for late 96 and mid 97.	iled for late 96 and mid 97.	
Technical: The FCT proposal was approved in FY95 as the USAF's highest priority FCT.	"s highest priority FCT.	
(U) C. Other Program Funding Summary (\$ in Thousands)		
(U) Funds from F-15 PDF Project 4375 922 (U) Foreign Comparative Tests OSD PE 0605130C 78 2,700	FY 1997 FY 1998 FY 1999 FY 2000 FY 2001 FY	TO Total FY 2002 Complement Cost 922 2,778 3,700
(U) D. Schedule Profile		
(U) Light Defender FCT $\frac{FY 1995}{2 3} 4$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	FY 1998
	Page 14 of 15 Pages Ext	Exhibit R-2
	1255	
	UNCL	



RDT&E PROGRAM ELEMENT	GRAM ELE		OJECT	COSTE	PROJECT COST BREAKDOWN (R-3)	JWN (R-	3)	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	evelopment			PE NUMBER AND 0207136F	PE NUMBER AND TITLE 0207136F Mann	D TITLE Manned Destructive Supression	ctive Sup	ression		
PROJECT NO. AND NAME 4516 Light Defender										
(U) A. Project Cost Breakdown (\$ in Thousands)	(\$ in Thousands)		FY 1995		FY 1996	FY 1997				
(U) Aircraft Integration(U) Test & Evaluation(U) Mission Support			922	2	3,700 700 162					
(U) Total			922	2	4,562					*
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands) Performing Organizations:	ry and Planning	Information (S	in Thousar	<u>ids)</u>			٠			-
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle	be Award or c Obligation Date	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget to Complete	Total <u>Program</u>
Product Development Organizations McDonnell Douglas CPAF Israeli Military Industries	Narious Various		TBD		922	1,200			0 0	2,122
Support and Management Organizations F-15 Sys Prog Off Lethal SEAD SPO Wright Labs	ations					50 62 50			0 0 0	50 62 50
Test and Evaluation Organizations Eglin Test Center	rel					700			0	700
Total						4,562			0	5,484
			Pa	Page 15 of 15 Pages	Pages			Exhibit R-3	t R-3	

RDT&E BUDGET ITEM JUSTIFICATION	JSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0207141F F-117A Sauadrons	
PROJECT NO. AND NAME		

3956 F-117A Stealth Fighter

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3956 F-117A Stealth Fighter	0	3,688	12,050	5,001	0	6,764	10,617	Continuing	Continuing

(U) A. Mission Description and Budget Item Justification

for an extensive modification program to keep the F-117A current with operational system and reliability/maintainability upgrades. Some of the modification projects integration, threat system, and technology quick look studies as required by the user. This program is in budget activity 7 - Operational System Development, because These improvements will enhance combat capability while maintaining a safe, reliable, and supportable aircraft. The F-117A is currently planned to be in service at engineering and manufacturing development (EMD). The final F-117A delivery to the Air Force (number 59) was July 1990. The program is well past production; currently the single operational F-117A unit is stationed at Holloman AFB. The program uses Aircraft Procurement Air Force (APAF) modification (BA-5) money require development efforts before they are integrated into the fleet (RDT&E money). In addition, small amounts of F-117A RDT&E funding, support quick look The F-117A is the world's only operational low-observable (LO) combat aircraft. Its combination of stealth and precision weapons delivery capability allows the United States Air Force to hold even the most highly defended targets at risk. This program provides funds to develop improved systems for the F-117A aircraft. least through the year 2015. The major research budget activity category is operational systems development; in addition, some research being performed is all aircraft have been delivered and program is now in its deployment phase.

single configuration of leading edges compatible with the overall Low Observable aircraft system. The next modification will develop a new fuel tank inerting system development work for the MIL-STD-1760 Stores Management Processor. This modification will enable the platform to integrate advanced weapons such as the Joint spray coating application techniques and panel access technologies to improve the reliability and maintainability of the weapon system. This modification will allow which will conform to environmental standards. The current aircraft inerting system uses halon, an ozone layer depleting chemical which is being withdrawn from Direct Attack Munition (JDAM) & the Wind Corrected Munitions Dispenser (WCMD). The second FY 97 RDT&E sub-project will continue development of new This project currently provides research and development for multiple modifications for the F-117A weapons system. The first FY 97 RDT&E effort continues the the weapon system to move towards a single configuration for all F-117 airframes. This sub project will also include efforts to move the weapon system towards a

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Exhibit R-2





RD.	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational Sys	вирдет астіvіту 7 - Operational System Development	PE NUMBER AND TITLE 0207141F F-117A Squadrons	
PROJECT NO. AND NAME 3956 F-117A Stealth Fighter	Fighter		
(U) FY 1995 (\$ in Thousands) - (U) \$ No FY95 - (U) \$0 Total	housands): No FY95 funding is programmed, continuation of FY94 program Total	94 program	
(U) <u>FY 1996 (\$ in Thousands)</u> : - (U) \$1,881 Developm - (U) \$1,607 Developm - (U) \$200 Miscellane - (U) \$3,688 Total	housands): Development work on MIL-STD-1760 Development work on new RAM recoating Miscellaneous Total		
(U) FY 1997 (\$ in Thousands) - (U) \$5,250 Continue - (U) \$4,400 Continue - (U) \$2,200 Developm - (U) \$200 Miscellan - (U) \$12,050 Total	housands): Continue MIL-STD-1760 work Continue RAM recoating work Development work on fuel tank inerting Miscellaneous Total		
	Pa	Page 2 of 7 Pages	Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TEM JUS	TIFICA	TION SI	HEET (R	-2 Exhil	oit)		DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	t		PE NI 020	PE NUMBER AND TITLE 0207141F F-11	PE NUMBER AND TITLE 0207141F F-117A Squadrons	uadrons			
PROJECT NO. AND NAME 3956 F-117A Stealth Fighter									
(U) B. Program Change Summary (\$ in Thousands)	(Spur					Total	<u>10</u>		
(U) Previous President's Budget (U) Appropriated Value		FY 1995	F	3,881 3,881	FY 1997 12,478	Cost continuing	ng ng		
a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram	gram			-82 -81 -30					
 d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/President's Budget 	SB.		0	3,688	-428 12,050				
(U) Change Summary Explanation: Funding: FY97 changes reflect adjustment for inflation	ıt for inflatio	ci							
Schedule:									
Technical:									
(U) C. Other Program Funding Summary (\$\sqrt{s}\$ in Thousands)	Thousands)							I	,
(I) Aircraft Drammant (BA 5).	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	To Compl	Total Cost
F-117 Modifications:	63,286	67,004	45,606	61,577	53,953	54,045	50,462	cont.	5,055,406
(U) Other Procurement (BA-5): F-117A Squadrons:	1,596	366	400	503	603	526	538	cont.	14,732
(U) Operations and Maintenance(BA-2): F-117A Squadrons:	219,833	226,549	226,848	229,610	230,665	235,687	250,386	cont.	2,987,916
			Page 3 of 7 Pages	7 Pages				Exhibit R-2	2-2





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-2 Exhibit) DATE March 1996	9
вирдет астіліту 7 - Operational System Development	PE NUMBER AND TITLE 0207141F F-117A Squadrons	
PROJECT NO. AND NAME 3956 F-117A Stealth Fighter		
(U) D. Schedule Profile		
FY 1995 1 2 3 4	$\frac{\text{FY 1996}}{2 3} 4 1 \frac{\text{FY 1997}}{2 3} 4$	
7; Retrofit in Progress 193 Finish: Mar 95 18; (Retrofit Start Jan 94, Finish	×	
Sept 90) RNIP+; (RDT&E Start FY92/Retrofit Start Jun 96 Finish Jul 00)	×	
AP-102 Computer Upgrade; (Retrofit Start Oct 96, Finish Jul 00) Mil-Std-1760 Bus; (RDT&E Start FY96	×	
Retrofit Start Oct 99 Finish Oct 02) RAM Recoat upgrade; (Retrofit Start Jan 99, Finish Dec 03)	×	
Ozone Depleting Chemical upgrade; (Retrofit Start Jan 99, Finish Oct 04)	×	
		<u> </u>
	Page 4 of 7 Pages	

RDT&E PROGRAM ELEMENT/	JGRAM EL	EMENT/	PROJECT COST BREAKDOWN (R-3)	COS	T BREA	KDOW	(R-3)		DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	Developmen	it		PE NUI 020	PE NUMBER AND TITLE 0207141F F-11	TITLE F-117A Squadrons	uadrons			
PROJECT NO. AND NAME 3956 F-117A Stealth Fighter).									
(U) A. Project Cost Breakdown (\$ in Thousands)	n (\$ in Thousand	[<u>s</u>]								
			FY 1995	<u>95</u>	FY 1996	FY 1997	<u>766</u>			
 (U) Developmental Testing (U) Test Support Hardware/Equipment (U) Software Development (U) Research Studies and Technical Data (U) Eng Chg Proposals/Engineering Support 	uipment ical Data ring Support				100 300 1,300 100 200	ů,	300 600 3,100 0 250			
	:				88 0 400	1	200 200 900 1,700			
(U) Engineering Design/development (U) Total	ment			0	1,200	, 5 , 12, 12, 12, 13, 14	5,000 12,050			
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	tory and Plannin	g Informatio	n (\$ in Thousa	(spu						
Performing Organizations:										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office EAC	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Product Development Organizations F-117 Office, SM-ALC/QL, Sacramento Air Logistics Center, McClellan AFB, CA	<u>ons</u> Allot	1 Oct 95	contin.	contin.		0	100	150	contin.	contin.
RAM Recoat Modification Aeronautics Systems Center, Signature technology office	AF 616	Apr 96	100	100	0	0	100	0	0	100
			P	Page 5 of 7 Pages	' Pages				Exhibit R-3	3





RDT&E PROGRAM ELEMENT	GRAM EL		PROJECT		COST BREAKDOWN (R-3)	KDOWN	(R-3)		DATE Ma	March 1996
BUDGET ACTIVITY 7 - Operational System Development	Developmen			PE NUM 0207	PE NUMBER AND TITLE 0207141F F-11	ΣΤΙΤΙΕ F-117A Squadrons	ıadrons			
PROJECT NO. AND NAME 3956 F-117A Stealth Fighter										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total Program
Sandia Labs, Albuquerque NM Lockheed Martin Sandia Lockheed Martin Skunk Works (RAM), Palmdale CA	MIPR CPFF T&M	May 96 May 96 Jun 96	300 3,200 2,300	300 3,200 2,300	0 0	0 0	100 300 1,100	200 2,900 1,200	0	300 3,200 2,300
Ozone Depleting Modification Lockheed Martin Skunk Works (Ozone), Palmdale CA	CPFF	Jan 97	2,100	2,100	0	0	0	2,100	0	2,100
mil-std-1760 modification Lockheed Martin Skunk Works (1760), Palmdale CA	CPFF	Jul 96	11,800	11,800	0	0	1,700	5,100	5,000	11,800
Support and Management Organizations Development System Program Allot Office, ASC/SD, Wright- Patterson AFB, OH Miscellaneous	<u>izations</u> Allot	1 Oct 94	contin.	contin.			088	100		contin. contin.
Test and Evaluation Organizations 410 Flight Test Squadron/Combined Test Force	SI									
			I	Page 6 of 7 Pages	Pages				Exhibit R-3	, ep

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BR	EAKDO	WN (R-3	(DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	0207141F F-11	ND TITLE F F-117A	D207141F F-117A Squadrons	ns			
PROJECT NO. AND NAME 3956 F-117A Stealth Fighter							
(U) B. Budget Acquisition History and Planning Information Continued (\$\sqrt{s}\$ in Thousands)	in Thousands)						
Government Furnished Property: Not Applicable. No GFE funded.							
Contract Method/Type Award or Item or Funding Obligation Delivery Vehicle Date Date	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Property							
Support and Management Property							
I	Page 7 of 7 Pages				Exhibit R-3	د.	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA.	TION SI	HEET (R	-2 Exhit	oit)		DATE M	March 1996	6
BUDGET ACTIVITY 7 - Operational System Development		PE NI 020	PE NUMBER AND TITLE 0207160F Tri-S	ritle 'ri-Servic	e Stando	ff Attack	PENUMBER AND TITLE 0207160F Tri-Service Standoff Attack Missile (TSSAM)	TSSAM)	
PROJECT NO. AND NAME 1006 Tri-Service Standoff Attack Missile (TSSAM)					1				
COST (\$ In Thousands)	FY 1995 Actual	1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
1006 Tri-Service Standoff Attack Missile (TSSAM)	17,670	0	0	0	0	0	0	0	17,670

(U) A. Mission Description and Budget Item Justification

aided inertial navigation system. The Navy and Air Force (unitary variant) missiles used an imaging infrared terminal sensor for autonomous recognition and homing on highly survivable, conventional, stealthy cruise missiles to satisfy tri-service requirements to effectively engage a variety of high value land and sea targets. The technical The Tri-Service Standoff Attack Missile (TSSAM) was a joint service program with the Air Force as the lead service. The program objective was to develop a family of approach to develop a modular stealth cruise missile which can employ several payloads and guidance systems to engage the required targets. All variants used a GPS fixed land targets and sea targets. The other Air Force variant contained the Combined Effects Bomblet (CEB) submunition to attack land targets. Integration efforts were planned for the Air Force's B-52H, F-16C/D, B-1 and B-2 and the Navy's F/A-18C/D. On 9 Dec 94 SECDEF announced cancellation of the TSSAM program. DEPSECDEF Program Decision Memorandum (PDM) IV, 16 Dec 94, canceled the TSSAM and associated contracts. The terminated program is described herein.

NOTE: Program termination costs are ongoing.

NOTE: Many TSSAM program specifics remain SECRET -Special Access Required per the 31 March 1993 Program Security Guide. Separate justification will be provided to appropriately cleared individuals.

(U) FY 1995

- (U) \$1,864 Completes funding of test sites
- (U) \$10,707 Completes funding of associate/support contracts and program office support
 - (U) \$5,099 Funding for prime contracts
 - (U) \$17,670 Total

1264

Page 1 of 4 Pages

Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION SHEET (R-2	Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207160F Tri-S	E Service Standoff Att	DE NUMBER AND TITLE OSTANDOFF ATTACK MISSILE (TSSAM)
PROJECT NO. AND NAME 1006 Tri-Service Standoff Attack Missile (TSSAM)			
(U) B. Program Change Summary (S in Thousands)			Total
(U) Previous President's Budget (U) Appropriated Value	FY 1995 135,600 135,600	$\frac{\text{FY } 1997}{0}$	Cost 135,600 135,600
(c) Adjustificates to Dauget Since F 150 FD a. General Congressional reduction b. General Reductions c. SBIR	-113,102 -1,998 -2,830		-113,102 -1,998 -2,830
(U) Adjustment to Budget Years Since FY 96 PB (U) Current Budget Submit/President's Budget	0 17,670	0 0	0 17,670
(U) Change Summary Explanation: Funding: The current budget reflects the program termination. All funding in FY 96 and out has been zeroed.	n. All funding in FY 96 and o	ut has been zeroed.	
Schedule: Not Applicable			
Technical: Not Applicable			
(U) C. Other Program Funding Summary (\$ in Thousands)			
(U) Not Applicable	FY 1997 FY 1998	FY 1999 FY 2000 FY	10 Total FY 2001 Complete Cost
Y 199	FY 1996	FY 1997	
Program close out ongoing	1 2 3 4	1 2 3	4
	Page 2 of 4 Pages		Exhibit R-2

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RDI	RDT&E PROGRAM ELEMENT	RAM ELE	MENT/P	/PROJECT COST BREAKDOWN (R-3)	COST BI	REAKDO	WN (R-3	(рате Ма	March 1996
вирает астіліту 7 - Operational System Development	System De	velopment			PE NUMBER AND TITLE 0207160F Tri-S	AND TITLE F Tri-Ser	vice Stan	doff Attac	TITLE Tri-Service Standoff Attack Missile (TSSAM)	SSAM)
PROJECT NO. AND NAME 1006 Tri-Service St	rt no. AND NAME Tri-Service Standoff Attack Missile (TSSAM)	ck Missile (T	SSAM)							
(U) A. Project Cost Breakdown (\$ in Thousands)	t Breakdown (\$	in Thousand	(ভ							
				FY 1995		FY 1996	FY 1997			
 (U) Major Contracts (U) Associated Contracts (U) Support Contracts (U) In-House (U) Test Support (U) Total 	acts s`			5,099 1,800 0 8,907 1,864 17,670		N/A	N/A			
(U) B. Budget Acquisition History and Planning Information (S in Thousands)	luisition History	y and Plannin	g Information	(\$ in Thousan	(ds)					
Performing Organizations:	zations:		NOTE: FYS	FY93 and prior years are classified Special Access Required	ears are clas	sified Special	l Access Requ	ired		
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Total <u>Program</u>	
Product Development Organizations Northrop FPIF Boeing FFP Lockheed FPIF Misc Contracts Misc	nt Organizations FPIF FFP FFP FPIF Misc	FY86 FY85 FY86 Various		™ -x-	140,080 24,020 14,300 14,570	5,099			145,179 24,020 14,300 16,370	
Support and Management Organizations Support Contracts Misc Va Program Office N/A N/A	ement Organizat Misc N/A	tions Various N/A			3,650 4,696	8,580			3,650 13,276	
Support ANSER Support				Pa	355 Page 3 of 4 Pages	327 es			682 Exhibit R-3	3
					1266					

RDT	RDT&E PROGRAM ELEMENT/P	RAM EL	EMENT/P		ROJECT COST BREAKDOWN (R-3)	REAKDO	WN (R-3	3	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	System De	velopmen	ţ		PE NUMBER AND TITLE 0207160F Tri-S	AND TITLE	vice Stan	doff Attac	PE NUMBER AND TITLE 0207160F Tri-Service Standoff Attack Missile (TSSAM)
PROJECT NO. AND NAME 1006 Tri-Service Standoff Attack Missile (TSSAM)	AE Standoff Atta	ck Missile (T	SSAM)						
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Total <u>Program</u>
AFOTEC Allot AFFTC/EAFB PO	Organizations Allot PO				1,000	15			1,015
ah Range AFB Air Warfare	MIPR MIPR				14,000 6,500 8,400 4,690	1,078			14,000 6,500 9,478 4,690
Center Misc	Misc				5,420	771			6,191
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	nisition Histor	y and Plannin	g Information	Continued (\$	in Thousands	۲,			
Government Furnished Property: Not Applicable	ed Property:	Not Applicabl	<u></u>						
Item Description	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Delivery <u>Date</u>		Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Total <u>Program</u>
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	slopment Management Iuation				192,970 8,701 56,810				199,869 17,608 58,674
Total Project					258,481				276,151
				Pa	Page 4 of 4 Pages	১			Exhibit R-3





March 1996 DATE 0207161F Tactical Aim Missile RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 7 - Operational System Development 4132 AIM-9 Product Improvement PROJECT NO. AND NAME

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
4132 AIM-9 Product Improvement	0	18,982	36,382	65,220	81,051	61,191	27,398	10,398	300,622

NOTE: FY 1995 and prior year funding appropriated and consolidated with Navy funding in Defense Agencies Program Element #0603715D.

(U) A. Mission Description and Budget Item Justification

tracking of enemy aircraft and complements the Advanced Medium Range Air-to-Air Missile. Air superiority in the SRM arena is essential and includes first shot, continuing evolution of the AIM-9 series. This program is in budget activity 7 - Operational System Development because it is an evolutionary improvement to a The AIM-9 Sidewinder short-range air-to-air missile (SRM) is a launch and leave, air combat munition that uses passive infrared (IR) energy for acquisition and missiles to the maximum extent possible. Retrofitting of components will extend the operational effectiveness of existing inventories at an affordable cost while first kill opportunity against an enemy employing IR countermeasures. The AIM-9X is a long-term evolution to the AIM-9, a fielded system, qualifying this as research category operational systems development. Evolutionary improvements in missile seeker, fuze, and kinematics allow retrofit of components to current fielded missile system.

(U) FY 1995 (\$ in Thousands):

- FY 95 funded in OSD PE 0603715D 0\$ (D)
 - (U) \$0

FY 1996 (\$ in Thousands): 9

- Continue DEM/VAL for missile seeker prototype and other elements to support a Milestone II Engineering and Manufacturing Development (U) \$11,389
 - Continue engineering support from China Lake and other agencies for the Demonstration and Validation program. (EMD) decision. Conduct Systems Design Review.
 - Prepare Request for Proposal for AIM-9X EMD (Not Separately Priced-(NSP)) (U) \$7,593 (J) \$0
- Begin preparation and analysis for Milestone II decision to enter Phase II, EMD (NSP). 0\$ (D)
 - (U) \$18,982

Exhibit R-2

Page 1 of 7 Pages

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	SJECT C	OST BRE	AKDOWN	(R-3)	DATE March 1996	
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207161F Tacti	PE NUMBER AND TITLE 0207161F Tactical Aim Missile	Missile		
PROJECT NO. AND NAME 4132 AIM-9 Product Improvement						
 (U) FY 1997 (\$\frac{\psi}{\psi}\$ in Thousands): (U) \$32,610 Award Contract for EMD. (U) \$3,772 Continue sustaining engineering support in-house and begin Development Test (DT-IIA). (U) \$0 Start EMD captive flight testing with brassboard hardware (NSP). (U) \$36,382 Total 	ort in-house and begin Deve brassboard hardware (NSP).	egin Developme are (NSP).	nt Test (DT-IIA)			
(U) B. Program Change Summary (\$\frac{8}{2}\$ in Thousands)				Total		
*	* FY 1995	FY 1996	FY 1997	Cost		
(U) Previous President's Budget	26,944	20,082	31,088	307,380		
(U) Appropriated Value	*0	20,082				
a. Cong Gen Reductions		-393				
b. SBIR		-291				
c. Omnibus or Other Above Threshold Reprogramming		-416	ļ			
(U) Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/President's Budget	0	18,982	5,294 36,382	300,622		
* NOTE: FY 1995 and prior years appropriations were consolidated with Navy funds into the Defense Agencies Program Element #0603715D.	with Navy fu	nds into the Def	anse Agencies Pro	ogram Element #0	603715D.	

(U) Change Summary Explanation:

Validation. This variance was due to significant differences between the CAIG and program office methodologies for estimating AIM-9X seeker costs. It was agreed that each service, Air Force and Navy, would increase their FY 97 program by \$7 million each. Reductions for higher priority Air Force requirements (-\$155,000) and inflation adjustments (-\$1,551,000) resulted in a net increase of \$5,294,000 in FY 97. FY 96 Reprogrammings include -\$206,000 for Bosnia and Funding: The OSD CAIG report dated November 1994 indicated that the joint program office underestimated contractor costs for AIM-9X Demonstration and -\$210,000 for F-16s to Jordan.

Schedule: None

Technical: None

Page 2 of 7 Pages

Exhibit R-3







### Description of System Development Per Numbers And Title 7 - Operational System Development Per Numbers And Title	Missile	March 1980
vement ng Summary (\$ in Thousands) FY 1995 FY 1996 FY 1997 F et Activity 2, PE FY 1996 FY 1997 F et Activity 2, PE FX EAGLE \$8,415 F rccept avy funding \$8,415 F es PE 0603715D 26,944 0 0 ed Program are of funding 0 0	FY 1998 FY 1999 FY 2000 F	
FY 1995 FY 1996 FY 1997 FY 1	FY 1998 FY 1999 FY 2000 F	
EY 1995 FY 1996 FY 1997 F FY 1997 F FY 1997 F FY 1997 F FY 1997 F FY 1997 F FY 1997 F FY 1997 F FY 1997 F FY 1997 F FY 1997 F FY 1997 F FY 1997 F FY 1997 F FY 1997 F FY 1997 F FY 1996 S8,415 FY 1997 F FY	FY 1998 FY 1999 FY 2000 F	
et Activity 2, PE K EAGLE T, PE 0207161N, * 0 28,906 58,415 recept avy funding es PE 0603715D 0603715D, 26,944 0 0 ed Program nare of funding	`	To Total Y 2001 Compl Cost 62,146 1,706,854 1,778,000
* 0 28,906 58,415 rrcept avy funding es PE 0603715D	9	6,705 Continuing TBD
0603715D, 26,944 0 ed Program hare of funding	63,348 82,916 61,060	27,361 10,533 332,356
	0 0 0 0	0 0 **57,100
Page 3 of 7 Pages	e 3 of 7 Pages	Exhibit R-2

RDT&E PR	RDT&E PROGRAM ELEMENT/		PROJECT	cos.	T BREA	COST BREAKDOWN (R-3)	I (R-3)		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	Developmen	ī		PE NU 020.	PE NUMBER AND TITLE 0207141F F-11	סדודנב F-117A Squadrons	uadrons	:			
PROJECT NO. AND NAME 3956 F-117A Stealth Fighter	er										
(U) A. Project Cost Breakdown (\$ in Thousands)	vn (\$ in Thousand	(হা									
			FY 1995	95	FY 1996	FY 1997	<u>766</u>				
 (U) Developmental Testing (U) Test Support Hardware/Equipment (U) Software Development (II) Research Studies and Technical Data 	uipment iical Data				100 300 1,300	ິຕົ	300 600 3,100				
(U) Eng Chg Proposals/Engineering Support (U) Travel/Security (U) Flight Test	rring Support				200 200 88 0		250 200 900	·			
(U) Systems Engineering (U) Engineering Design/development (U) Total	oment			0	400 1,200 3,688	1, 5,	1,700 5,000 12,050				
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	story and Plannin	g Informatio	n (\$ in Thousa	(spui							
Performing Organizations:											······································
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations F-117 Office, SM-ALC/QL, A Sacramento Air Logistics	<u>ions</u> Allot	1 Oct 95	contin.	contin.		0	100	150	contin.	contin.	
Center, McClellan AFB, CA RAM Recoat Modification Aeronautics Systems Center, Signature technology office	AF 616	Apr 96	100	100	0	0	100	0	0	100	
			P	Page 5 of 7 Pages	' Pages				Exhibit R-3	.3	





RDT&E PROGRAM ELEMENT	GRAM EL	EMENT/P	/PROJECT	COST	BREAK	COST BREAKDOWN (R-3)	(R-3)		DATE Ma	March 1996
BUDGET ACTIVITY 7 - Operational System Development	Developmen			PE NUM 0207	PE NUMBER AND TITLE 0207141F F-11	БТІТІЕ F-117A Squadrons	nadrons			
PROJECT NO. AND NAME 3956 F-117A Stealth Fighter										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Sandia Labs, Albuquerque NM Lockheed Martin Sandia Lockheed Martin Skunk Works (RAM), Palmdale CA	MIPR CPFF T&M	May 96 May 96 Jun 96	300 3,200 2,300	300 3,200 2,300	0 0	000	100 300 1,100	200 2,900 1,200	000	300 3,200 2,300
Ozone Depleting Modification Lockheed Martin Skunk Works (Ozone), Palmdale CA	CPFF	Jan 97	2,100	2,100	0	0	0	2,100	0	2,100
mil-std-1760 modification Lockheed Martin Skunk Works (1760), Palmdale CA	CPFF	Jul 96	11,800	11,800	0	0	1,700	5,100	5,000	11,800
Support and Management Organizations Development System Program Allot Office, ASC/SD, Wright-	<u>izations</u> Allot	1 Oct 94	contin.	contin.			880	100		contin.
ranctson Arb, On Miscellaneous							200	200		contin.
Test and Evaluation Organizations 410 Flight Test Squadron/ Combined Test Force	SI									
			I	Page 6 of 7 Pages	Pages				Exhibit R-3	9

RDT	RDT&E PROGRAM ELEMENT	RAM ELE	EMENT/PROJECT COST BREAKDOWN (R-3)	COST BR	EAKDO	WN (R-3		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	System De	velopment		PE NUMBER AND TITLE 0207141F F-11	ND TITLE	DITITE F-117A Squadrons	ns			ĺ
PROJECT NO. AND NAME 3956 F-117A Stealth Fighter	AE IIth Fighter									
(U) B. Budget Acquisition History and Planning Informati	nisition Histor	v and Planning	g Information Continued (§ in Thousands)	in Thousands)						Π
Government Furnished Property: Not Applicable. No GFE	ted Property:	Not Applicabl	le. No GFE funded.							-
Item Description	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Delivery <u>Date</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Property	Property									
Support and Management Property	nent Property									
:										
		·	Pas	Page 7 of 7 Pages		1 		Exhibit R-3	5-3	

UNCLASIFIED



RDT&E BUDGET ITEM JUS	STIFICATION SHEET (R-2 Exhibit)	TION S	HEET (R	-2 Exhik	oit)		рате М	March 1996	9
вироет астіліту 7 - Operational System Development		PE NI 020	PE NUMBER AND TITLE 0207160F Tri-S	PENUMBER AND TITLE 0207160F Tri-Service Standoff Attack Missile (TSSAM)	e Stando	ff Attack	Missile (TSSAM)	
PROJECT NO. AND NAME 1006 Tri-Service Standoff Attack Missile (TSSAM)									
COST (\$ In Thousands)	FY 1995 Actual	1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
1006 Tri-Service Standoff Attack Missile (TSSAM)	17,670	0	0	0	0	0	0	0	17,670

(U) A. Mission Description and Budget Item Justification

aided inertial navigation system. The Navy and Air Force (unitary variant) missiles used an imaging infrared terminal sensor for autonomous recognition and homing on highly survivable, conventional, stealthy cruise missiles to satisfy tri-service requirements to effectively engage a variety of high value land and sea targets. The technical The Tri-Service Standoff Attack Missile (TSSAM) was a joint service program with the Air Force as the lead service. The program objective was to develop a family of approach to develop a modular stealth cruise missile which can employ several payloads and guidance systems to engage the required targets. All variants used a GPS fixed land targets and sea targets. The other Air Force variant contained the Combined Effects Bomblet (CEB) submunition to attack land targets. Integration efforts were planned for the Air Force's B-52H, F-16C/D, B-1 and B-2 and the Navy's F/A-18C/D. On 9 Dec 94 SECDEF announced cancellation of the TSSAM program. DEPSECDEF Program Decision Memorandum (PDM) IV, 16 Dec 94, canceled the TSSAM and associated contracts. The terminated program is described herein.

NOTE: Program termination costs are ongoing.

NOTE: Many TSSAM program specifics remain SECRET -Special Access Required per the 31 March 1993 Program Security Guide. Separate justification will be provided to appropriately cleared individuals.

	Completes funding of test sites
(I) FY 1995	(U) \$1,864

(U) \$10,707 Completes funding of associate/support contracts and program office support

(U) \$5,099 Funding for prime contracts

- (U) \$5,099 Fund - (U) \$17,670 Total 1264

Page 1 of 4 Pages

Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION SHEET (R-2	Exhibit)	DATE March 1996	
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207160F Tri-S	LE -Service Standoff Att	Tri-Service Standoff Attack Missile (TSSAM)	
PROJECT NO. AND NAME 1006 Tri-Service Standoff Attack Missile (TSSAM)				
(U) B. Program Change Summary (\$ in Thousands)			Total	
	FY 1995 FY 1996	FY 1997	Cost	·
(U) Previous President's Budget	135,600	0 0	135,600	
	100,000		133,000	
a. General Congressional reduction b. General Reductions	-113,102 -1,998		-113,102 -1,998	
c. SBIR (U) Adjustment to Budget Years Since FY 96 PB (U) Current Budget Submit/President's Budget	-2,830 0 17,670	0	-2,830 0 17,670	
(U) Change Summary Explanation: Funding: The current budget reflects the program termination. All funding in FY 96 and out has been zeroed.	1. All funding in FY 96 and	out has been zeroed.		
Schedule: Not Applicable				
Technical: Not Applicable				
(U) C. Other Program Funding Summary (\$ in Thousands)				
(U) Not Applicable	<u>FY 1997</u> FY 1998	FY 1999 FY 2000 FY	FY 2001 Complete Cost	
(U) D. Schedule Profile FY 1995	FY 1996	FY 1997		•
1 2 3 4 Program close out ongoing	1 2 3 4	4 1 2 3	4	-
	Page 2 of 4 Pages		Exhibit R-2	·
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RD	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	RAM EL	EMENT/P	ROJECT	COST BF	REAKDO	WN (R-3		DATE March 1996	
BUDGET ACTIVITY 7 - Operational System Development	System De	velopment			PE NUMBER AND TITLE 0207160F Tri-S	AND TITLE	vice Stan	doff Attac	Tri-Service Standoff Attack Missile (TSSAM)	
PROJECT NO. AND NAME 1006 Tri-Service Standoff Attack Missile (TSSAM)	AME Standoff Atta	ck Missile (T	SSAM)							
(U) A. Project Cost Breakdown (\$ in Thousands)	st Breakdown (\$	§ in Thousand	(8)							
				FY 1995		FY 1996	FY 1997			
(U) Major Contracts (U) Associated Contracts (U) Support Contracts (U) In-House (U) Test Support (U) Total	racts ts`			5,099 1,800 0 8,907 1,864 17,670		N/A	N/A			-
(U) B. Budget Acquisition History and Planning Informat	quisition Histor	y and Plannin	g Information	ion (\$ in Thousands)	<u>ds)</u>					
Performing Organizations:	izations:		NOTE: FYS	FY93 and prior years are classified Special Access Required	ears are class	ified Special	Access Requ	ired		· · · · · · · · · · · · · · · · · · ·
Contractor or Government Performing	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Total <u>Program</u>	
Product Development Organizations Northrop FPIF Boeing FFP Lockheed FPIF Misc Contracts Misc	ont Organizations FPIF FFP FPP FPP Misc	FY86 FY85 FY86 Various			140,080 24,020 14,300 14,570	5,099			145,179 24,020 14,300 16,370	···
Support and Management Organizations Support Contracts Misc Va Program Office N/A N/A	ement Organizat Misc N/A	tions Various N/A			3,650 4,696	8,580			3,650 13,276	· ·
Support ANSER Support					355	327			682	
				Pa	Page 3 of 4 Pages	es			Exhibit R-3	
					1266					

RD	RDT&E PROGRAM ELEMENT/PROJECT	SRAM EL	EMENT/P	ROJECT	COST BREAKDOWN (R-3)	REAKDO	WN (R-3		DATE March 1996	
BUDGET ACTIVITY 7 - Operational System Development	l System De	velopmen	t		PE NUMBER AND TITLE 0207160F Tri-S	AND TITLE F Tri-Ser	vice Stan	doff Attac	D207160F Tri-Service Standoff Attack Missile (TSSAM)	
PROJECT NO. AND NAME 1006 Tri-Service Standoff Attack Missile (TSSAM)	AME Standoff Atta	ıck Missile (1	rssam)							
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Total <u>Program</u>	
Product Development Organizations AFOTEC Allot AFFTC/EAFB PO	nt Organizations Allot PO PO	· ·			1,000	15			1,015	
Tonapah Range Eglin AFB Naval Air Warfare	MIPR PO MIPR				6,500 8,400 4,690	1,078			14,000 6,500 9,478 4,690	
Center Misc	Misc				5,420	771			6,191	
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	quisition Histor	y and Plannin	g Information	Continued (\$ i	n Thousands	~ 1				
Government Furnished Property: Not Applicable	shed Property:	Not Applicab	je Je							
Item <u>Description</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Delivery <u>Date</u>		Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Total <u>Program</u>	
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	velopment 1 Management 'aluation				192,970 8,701 56,810				199,869 17,608 58,674	
Total Project					258,481				276,151	
				Ğ	of A Day	·			ָה היי ני	
				Fa	rage 4 of 4 rages	S			EXNIBIT K-3	







300,622 Total Cost **March 1996** 10,398 Cost to Complete 27,398 FY 2001 Estimate DATE 61,191 FY 2000 Estimate 0207161F Tactical Aim Missile 81,051 FY 1999 Estimate RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) 65,220 FY 1998 Estimate PE NUMBER AND TITLE 36,382 FY 1997 Estimate 18,982 FY 1996 Estimate FY 1995 Actual 7 - Operational System Development COST (\$ In Thousands) 4132 AIM-9 Product Improvement 4132 AIM-9 Product Improvement PROJECT NO. AND NAME BUDGET ACTIVIT

NOTE: FY 1995 and prior year funding appropriated and consolidated with Navy funding in Defense Agencies Program Element #0603715D

(U) A. Mission Description and Budget Item Justification

tracking of enemy aircraft and complements the Advanced Medium Range Air-to-Air Missile. Air superiority in the SRM arena is essential and includes first shot, continuing evolution of the AIM-9 series. This program is in budget activity 7 - Operational System Development because it is an evolutionary improvement to a The AIM-9 Sidewinder short-range air-to-air missile (SRM) is a launch and leave, air combat munition that uses passive infrared (IR) energy for acquisition and missiles to the maximum extent possible. Retrofitting of components will extend the operational effectiveness of existing inventories at an affordable cost while first kill opportunity against an enemy employing IR countermeasures. The AIM-9X is a long-term evolution to the AIM-9, a fielded system, qualifying this as research category operational systems development. Evolutionary improvements in missile seeker, fuze, and kinematics allow retrofit of components to current fielded missile system.

FY 1995 (\$ in Thousands):

- FY 95 funded in OSD PE 0603715D

FY 1996 (\$ in Thousands): 3

- Continue DEM/VAL for missile seeker prototype and other elements to support a Milestone II Engineering and Manufacturing Development (U) \$11,389
 - (EMD) decision. Conduct Systems Design Review.
- Continue engineering support from China Lake and other agencies for the Demonstration and Validation program. \$7,593 3
 - Prepare Request for Proposal for AIM-9X EMD (Not Separately Priced-(NSP)) \$0 9
- Begin preparation and analysis for Milestone II decision to enter Phase II, EMD (NSP). \$0
 - (U) \$0 (U) \$18,982

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Exhibit R-2

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ROJECT (SOST BRE	AKDOWN	(R-3)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207161F Tacti	PENUMBER AND TITLE OSO7161F Tactical Aim Missile	Missile	
PROJECT NO. AND NAME 4132 AIM-9 Product Improvement					
 (U) FY 1997 (\$\frac{\psi}{\psi}\$ in Thousands): (U) \$32,610 Award Contract for EMD. (U) \$3,772 Continue sustaining engineering support in-house and begin Development Test (DT-IIA). (U) \$0 Start EMD captive flight testing with brassboard hardware (NSP). (U) \$36,382 Total 	in-house and b	oegin Developme are (NSP).	ant Test (DT-IIA)		
(U) B. Program Change Summary (\$ in Thousands)				Total	
(U) Previous President's Budget (U) Appropriated Value	* <u>FY 1995</u> 26,944 0*	FY 1996 20,082 20,082	FY 1997 31,088	Cost 307,380	
(U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogramming		-393 -291 -416			
(U) Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/President's Budget	0	18,982	5,294 36,382	300,622	

* NOTE: FY 1995 and prior years appropriations were consolidated with Navy funds into the Defense Agencies Program Element #0603715D.

(U) Change Summary Explanation:

(-\$155,000) and inflation adjustments (-\$1,551,000) resulted in a net increase of \$5,294,000 in FY 97. FY 96 Reprogrammings include -\$206,000 for Bosnia and Funding: The OSD CAIG report dated November 1994 indicated that the joint program office underestimated contractor costs for AIM-9X Demonstration and Validation. This variance was due to significant differences between the CAIG and program office methodologies for estimating AIM-9X seeker costs. It was agreed that each service, Air Force and Navy, would increase their FY 97 program by \$7 million each. Reductions for higher priority Air Force requirements \$210,000 for F-16s to Jordan.

Schedule: None

Technical: None

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POTRE RINGET ITEM HISTIFICATION SHEET (R-2 Exhibit)	NH NH	TIFICAT	HS NOI	FFT (R	-2 Exhib)it)		DATE	March 1996
BUDGET ACTIVITY 7 - Onerational System Development			PE NU.	PE NUMBER AND TITLE 0207161F Tacti	PE NUMBER AND TITLE 0207161F Tactical Aim Missile	im Missil	9		
PROJECT NO. AND NAME 4132 AIM-9 Product Improvement									
(U) C. Other Program Funding Summary (S in Thousands)	Thousands)								
(U) Missile Procurement, Budget Activity 2, PE 0207161F, Program Title: AIM-9X Production	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001 62,146	To Compl 1,706,854	Total <u>Cost</u> 1,778,000
(U) Missile Procurement, Budget Activity 2, PE 0207590F, Program Title: SEEK EAGLE							6,705	Continuing	TBD
Related Activities: RDT&E, Navy; Budget Activity 7, PE 0207161N, Program title: Tactical Air Intercept * NOTE: FY 1995 RDT&E, Navy funding appropriated in Defense Agencies PE 0603715D	O *	28,906	58,415	63,348	82,916	61,060	27,361	10,533	332,356
RDT&E, Defense Agencies, PE 0603715D, Program title AIM-9 Consolidated Program ** NOTE: Reflects Air Force share of funding including FY95 and prior years.	26,944	0	0	0	0	0	0	0	**57,100
				į					
			Page 3 of 7 Pages	7 Pages				Exhibit K-2	

RDT&E BUDGE	ET ITEM JUSTII	FICATION	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	ment		PE NUMBER AND TITLE 0207161F Tactical Aim Missile	Missile	
PROJECT NO. AND NAME 4132 AIM-9 Product Improvement					
(U) D. <u>Schedule Profile</u>	FY 1995	1	FY 1996 2 3 4 1	FY 1997 2 3 4	
(U) Acquisition Milestones MS IV/I MS II MS III 4Q/FY02)	n	
(U) Engineering Milestones SRR SDR PDR CDR 3Q/FY98 TRR for TECHEVAL 2Q/FY00	×		×	×	
(U) Test and Evaluation Milestones DT-1 Fly Brassboards DT-IIA Captive Carry DT-IIB (Safe Separation) DT-IIC (Guided Launches) DT-IID (TECHEVAL) OT-IIA (Guided Launches) 1Q/FY00 OT-IIB (OPEVAL) 2Q/FY00	×	×		××	
(U) Contract Milestones DEMYAL RFP Release (EMD) EMD Award LRIP Award Production 1Q/FY01	× .		×	×	
		Page	Page 4 of 7 Pages		Exhibit R-2





RDT&E PROGRAM ELEMENT/PROJECT	COST BREAKDOWN (R-3)	EAKDO		DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207161F Tact	ND TITLE Tactica	אוזדוב Tactical Aim Missile	
PROJECT NO. AND NAME 4132 AIM-9 Product improvement				
(U) A. Project Cost Breakdown (\$ in Thousands)				
FY 1995*	5* FY 1996	<u>96</u>	<u>FY 1997</u>	
(U) Project Cost Categories				
(U) a. Primary Hardware Development	0 11,389	688	32,610	
(U) b. Government Engineering Support	0 4,8	4,894	2,143	
(U) c. Contractor Engineering Support	0	181	130	
(U) d. Miscellaneous	0 1,0	1,084	807	
(U) e. Development Test and Evaluation	0 1,6	1,061	523	
(U) f. Travel	0	374	169	
(U) Total	0 18,	18,982	36,382	
* NOTE: FY 1995 and prior years appropriations were consolidated with Navy funds into the Defense Agencies Program Element #0603715D.	y funds into the l	Defense Ago	encies Program Element #060	3715D.
		•		
P	Page 5 of 7 Pages			Exhibit R-3

RE	RDT&E PROGRAM ELEMENT/P	GRAM EL	EMENT/P	ROJECT	ROJECT COST BREAKDOWN (R-3)	REAKD(OWN (R-	3)	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	al System D	evelopmen			PE NUMBER ANI 0207161F	PE NUMBER AND TITLE 0207161F Taction	Tactical Aim Missile	ssile			
PROJECT NO. AND NAME 4132 AIM-9 Product Improvement	NAME duct Improven	nent									
(U) B. Budget Acquisition History and Planning Information	cquisition Histor	ry and Plannin	ng Information	(\$ in Thousands)	(Spu						
Performing Organizations:	nizations:										
Contractor or Government Performing	Contract Method/Type or Funding	Award or Obligation	Performing Activity	Project Office	Total Prior to	Budget	Budget	Budøet	Budget to	Total	
Activity	Vehicle	<u>Date</u>	EAC	EAC	FY 1995	FY 1995	FY 1996	FY 1997	Complete	Program	
Product Development Organizations	ent Organization	S I									
Hughes Ravtheon	C/CPIF C/CPIF	Dec 94 Dec 94	5,694	5,694	00	00	5,694	00	00	5,694 5,695	
Contract (EMD) McDon-Doug	C/CPIF C/CPIF	Jan 97 Jan 95	7BD 7BD	197,143	00	00	181	32,610 130	164,533	197,143	
NAWC CL	WR	Oct 95	62,582	62,582	00	00	5,955	2,665	53,752	62,372	
Misc in-house (Efforts <\$1.0M)			6,105	6,105	0	0	868	789	4,418	6,105	
Support and Management Organizations	gement Organiza	tions									
Various Contracts	FFP		2,466	2,466	0	0	559	188	1,719	2,466	
Test and Evaluation Organizations (Included in Product Development)	n Organizations	(Included in P	roduct Develop	ment)							
				P	Page 6 of 7 Pages	Ses			Exhibit R-3	. . 3	····

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET	(R-2 Ex	hibit)		DATE	March 1996	
вироет Астіміту 7 - Operational System Development	PE NUMBER AND TITLE 0207161F Tacti	ND TITLE F Tactica	PE NUMBER AND TITLE O207161F Tactical Aim Missile	sile			
PROJECT NO. AND NAME 4132 AIM-9 Product improvement							
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	in Thousands)						
Government Furnished Property: (Not applicable)							
	Total Prior to FY 1995	Budget FY 1995*	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	000	18,423 559 0	36,194 188 0	243,539 1,719 0	298,156 2,466 0		
Total Project	0	0	18,982	36,382	245,258	300,622	
						·	
	÷					:	
P.	Page 7 of 7 Pages	S			Exhibit R-2	2-2	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	FION SE	HEET (R	-2 Exhil	bit)		DATE	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development		PE NI 020	PE NUMBER AND TITLE 0207163F Adva	PE NUMBER AND TITLE OS07163F Advanced Medium Range Air-to-Air Missile	Mediun	ר Range	Air-to-Air	. Missile	
PROJECT NO. AND NAME 3777 AMRAAM									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3777 AMRAAM	63,855	44,413	25,883	75,051	39,293	40,485	41,086	209,100	702,937
(U) A. <u>Mission Description and Budget Item Justification</u> The Air Force and Navy developed the baseline AMRAAM as a high performance, all weather missile to counter existing air vehicle threats having advanced electronic countermeasures capabilities operating at high or low altitude. The AMRAAM pre-Planned Product Improvement (P31) program provides for a continuing, Joint Air Force/Navy research and development program allowing AMRAAM to: (1) be compatible with advanced fighters, (2) enhance AMRAAM capability and operational flexibility against mid-1990's and beyond threats, (3) incorporate high payoff technology developments, and (4) investigate new variants and/or alternate missions which may use many baseline missile attributes. This program is in budget activity 7 - Operational System Development, Research Category 6.6 providing upgrades to the AIM-120C missile now in production.	A as a high por low altitude in program al nd beyond thrissile attribut roduction.	srformance, s. The AMG lowing AM eats, (3) incests, (3) incests, (5)	all weather RAAM Pre-I RAAM to: (corporate hig gram is in b	missile to cc Planned Proc (1) be compa gh payoff tec udget activit	unter existii fuct Improve tible with ac shnology dev y 7 - Operati	ng air vehicl rment (P3I) Ivanced figl elopments, ional Systen	e threats hav program pro nters, (2) enh and (4) inves 1 Developme	as a high performance, all weather missile to counter existing air vehicle threats having advanced low altitude. The AMRAAM Pre-Planned Product Improvement (P31) program provides for a program allowing AMRAAM to: (1) be compatible with advanced fighters, (2) enhance AMRAA I beyond threats, (3) incorporate high payoff technology developments, and (4) investigate new va sile attributes. This program is in budget activity 7 - Operational System Development, Research Oduction.	d AM ariants Category
 (U) FY 1995 (\$ in Thousands): (U) \$59,008 Continued P3I Phase 2 EMD for ECCM and weapons effectiveness improvements. Initiated kinematic improvements (+5 inch Rocket Mote via modification of Phase 2 contract. (U) \$4,847 Initiated Phase 3 risk reduction to enhance ECCM and guidance capabilities. (U) N/A Continued Navy participation in AMRAAM P3I Phase 1 & 2 program with emphasis on Navy unique requirements and aircraft integration compatibility (Funded by USN). (U) \$63,855 Total 	CM and wear thance ECCM RAAM P31 F	ons effectiv (and guidar hase 1 & 2	eness impro ace capabilit program wit	vements. In ies. th emphasis	itiated kiner on Navy uni	natic improv que require	/ements (+5 ments and ai	M and weapons effectiveness improvements. Initiated kinematic improvements (+5 inch Rocket Motor) ance ECCM and guidance capabilities. AAM P3I Phase 1 & 2 program with emphasis on Navy unique requirements and aircraft integration	Motor) ition
 (U) FY 1996 (\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\	weapons effec nhance ECCN &AAM P31 P1	tiveness, an A and guida lase 2 progr	id kinematic mce. am with em	improveme phasis on Na	nts. tvy unique r	equirements	and aircraft	integration	
		Page I of 7 Pages	7 Pages				Exhibit R-2	-2	





RDT&E BUDGET ITEM JUS	STIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibi	t)	DATE March 1996	
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207163F Adva	TITLE Advanced I	Medium Range	PENUMBER AND TITLE 0207163F Advanced Medium Range Air-to-Air Missile	
PROJECT NO. AND NAME 3777 AMRAAM						
 (U) FY 1997 (\$ in Thousands): (U) \$20,361 Continue Phase 2 EMD for ECCM, weapons effectiveness, and kinematic improvements. (U) \$5,522 Continue Phase 3 risk reduction to enhance ECCM and guidance, and prepare for FY98 EMD. (U) N/A Continue Navy participation in AMRAAM P3I Phase 2 program with emphasis on Navy unique requirements and aircraft integration compatibility (Funded by USN) (U) \$25,883 Total 	weapons effectiveness, and kinematic improvements. enhance ECCM and guidance, and prepare for FY98 EMD. RAAM P3I Phase 2 program with emphasis on Navy uniqu	tess, and kinemat i guidance, and p program with e	ic improvements repare for FY98 nphasis on Navy	EMD. unique requirement	s and aircraft integration	
(U) B. Program Change Summary (\$ in Thousands)						
(U) Previous President's Budget(U) Appropriated Value	FY 1995 68,467	FY 1996 42,311 47,311	FY 1997 49,232	Total <u>Cost</u> 716,579		
 (U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram 		-926 -991 -981				
 d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/President's Budget 	-4,612	44,413	-23,349 25,883	702,937		
(U) Change Summary Explanation: Enneting: FY96 Congressional appropriation increased FY96 (+\$\mathbb{S}_0^1000) for Phase 3 risk reduction. In addition. FY96 funding was reprogrammed to support	FY96 (+\$\$,000)	for Phase 3 risk 1	eduction. In ado	iition. FY96 funding	was reprogrammed to support	

Funding: FY96 Congressional appropriation increased FY96 (+\$5,000) for Phase 3 risk reduction. In addition, FY96 hunding was reprogrammed to support Bosnia (-\$487) and F-16s to Jordan (-\$494). Funds were realigned from FY97 (-\$22,000) to FY98 (+\$22,000) to align funding with program execution. FY97 was also reduced by an inflation rate adjustment (-\$1,104) and O&M Reductions (-\$245).

rescheduled to allow for complete integration of the improved (+5 inch) rocket motor. Tape 7B PDR, originally scheduled for Nov 95, was completed in Feb 96; Schedule: Phase 2 Tape 7A PDR/CDR and FCA(A) have been completed on schedule, and FCA(A) remains on schedule. Tape 7A will be introduced in AIM-120C production in Lot 9 (CY97 deliveries) and will be reprogrammed into Lot 8 AIM-120C missiles. Phase 2 Tape 7B PDR/CDR and FCA(B) have been Tape 7B CDR has been rescheduled from Jun 96 to Oct 96; and FCA(B) has been rescheduled from Mar 98 to Sep 98. These dates still support production

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Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS.	TIFICAT	ION SE	IEET (R.	-2 Exhit	oit)		DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development			PE NU 020	PE NUMBER AND TITLE 0207163F Adva	⊓LE dvanced	Mediun	ี Range	PENUMBER AND TITLE 0207163F Advanced Medium Range Air-to-Air Missile	Missile
PROJECT NO. AND NAME 3777 AMRAAM									
incorporation of the new warhead (lethality improvements) and new rocket motor (kinematic improvements) in AIM-120C Production Lot 12 (CY00 deliveries) The revised schedule also supports Tape 7B introduction into AIM-120C production Lot 11 and reprogramming into all Lot 8, 9, and 10 missiles. Phase 3 risk reduction efforts remain on track to support a 3rd quarter FY98 contract award for ECCM and guidance enhancements.	/ improvemen 3 introduction t a 3rd quarte	ts) and new into AIM-1 r FY98 cont	rocket moto 120C produc ract award 1	or (kinematic tion Lot 11 a for ECCM at	improveme and reprogra	nts) in AIM imming intc enhanceme	[-120C Prod all Lot 8, 9 nts.	uction Lot 12, and 10 mis	ts) and new rocket motor (kinematic improvements) in AIM-120C Production Lot 12 (CY00 deliveries into AIM-120C production Lot 11 and reprogramming into all Lot 8, 9, and 10 missiles. Phase 3 risk r FY98 contract award for ECCM and guidance enhancements.
Technical: No change.									
(U) C. Other Program Funding Summary (\$ in Thousands)	Thousands)								
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	To Compl	Total Cost
(U) IMISSIE Frocurement, Budget Activity: #2 (U) BP20 AMRAAM	233,948	177,676	116,299	137,668	129,987	157,523	180,922		7,477,553
(U) BP26 Init Spares	7,413	7,762	3,869	2,655	2,733	2,822	2,803	20,100	96,443
(U) QIY	412	291	133	158	173	227	228	1,438	8,600
NOTE: Above funding does not include Interim Contractor Support (ICS). FY 95 was last year of ICS and funding was \$1,808	ontractor Supp	oort (ICS).	FY 95 was l	ast year of I0	S and fund	ing was \$1,	808.		
(U) Missile Procurement, Budget Activity: #2, Program Title:		EEK EAG	SEEK EAGLE (PE: 0207590)	(1590)					
(U) BP20 (U) QTY	0 0	00	0	00	0 0	0	0	0	15,357 36

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Exhibit R-2

** SEEK EAGLE requirement for one (1) missile was deleted in FY95. However, there was a SEEK EAGLE requirement for 18 Captive Air Training Missiles in FY95.





RDT&E BUDGE	ET ITEM JUSTIFICATIO	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	oment	PE NUMBER AND TITLE 0207163F Advanced Medium Range	Medium Range Air-to-Air Missile
PROJECT NO. AND NAME 3777 AMRAAM			
(U) D. Schedule Profile			
 (U) P3I Phase 2 Tape 7A PDR/CDR (U) P3I Phase 2 FCA(A) (U) P3I Phase 2 Tape 7B PDR/CDR (U) P3I Phase 2 Flight Test (Includes ACE) 	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	FY 1996 1 2 3 4 1 2 3 4 X X X	
 (U) P3I Phase 2 Flight Test Complete (U) P3I Phase 2 FCA(B) (U) P3I Phase 3 ECCM Contract Award (U) P3I Phase 3 Kinematic Contract Award 	4Q FY 98 4Q FY 98 3Q FY 98 2Q FY 01		
* Actual datesX Completion or Milestone			
	P	Page 4 of 7 Pages	Exhibit R-2

BUDGET ACTIVITY 7 - Operational System Development PROJECT NO. AND NAME 3777 AMRAAM (U) A. Project Cost Breakdown (\$ in Thousands) (U) a. Contract/COEA (U) a. Contract/COEA (U) b. Government Costs (Test, Support) (U) c. GFE (U) d. Contractor Support			PE NUMBER AND TITLE 0207163F Advanced	AND TITLE				
PROJECT NO. AND NAME 3777 AMRAAM (U) A. Project Cost Breakdown (\$ in Thousands) (U) Project Cost Categories (U) a. Contract/COEA (U) b. Government Costs (Test, Support) (U) c. GFE (U) d. Contractor Support				sr Advan		ium Kang	e Air-to-A	Medium Kange Air-to-Air Missile
 (U) A. Project Cost Breakdown (\$\\$\\$\\$\\$\\$\\$\) Thousands) (U) Project Cost Categories (U) a. Contract/COEA (U) b. Government Costs (Test, Support) (U) c. GFE (U) d. Contractor Support 								
 (U) Project Cost Categories (U) a. Contract/COEA (U) b. Government Costs (Test, Support) (U) c. GFE (U) d. Contractor Support 								
 (U) a. Contract/COEA (U) b. Government Costs (Test, Support) (U) c. GFE (U) d. Contractor Support 		FY 1995	FY	FY 1996	FY 1997			
(U) a. Contract/COEA(U) b. Government Costs (Test, Support)(U) c. GFE(U) d. Contractor Support								
		46,056 13,825 268 3,706	61	34,647 6,932 0 2,834	18,037 4,884 0 2,962			
(U) Total		63,855	4	44,413	25,883			
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	formation (s in Thousand	ଗ					
Performing Organizations:								
Contractor or Contract Government Method/Type Award or Performi Performing or Funding Obligation Activity Activity Vehicle Date EAC	gu	Project Office EAC	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Product Development Organizations		■ -2.						
F08635-90-C-0201 Hughes FFP Aug 90 F08626-91-C-0034	N/A	N/A	5,200					5,200
CPIF Mar 91	91,704	93,506	93,506	•				93,506
		Page	Page 5 of 7 Pages	es			Exhibit R-3	R-3





RD	RDT&E PROGRAM ELEMENT	3RAM EL		/PROJECT		REAKDO	COST BREAKDOWN (R-3)	<u></u>	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	al System De	evelopmen	<u></u>		PE NUMBER ANI 0207163F	PE NUMBER AND TITLE 0207163F Advanced		ium Rang	Medium Range Air-to-Air Missile	r Missile	
PROJECT NO. AND NAME 3777 AMRAAM	AME						6				
Contractor or Government Performing <u>Activity</u> F08626-93-C-	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Hughes Phase 3 Risk	CPAF	Jun 94	118,442	129,808	24,170 0	41,074	23,162	12,573	28,828	129,808	
Reduction Contract Phase 3 ECCM		Oct 95				4,001	10,764	5,040	3,045	22,850	
EMD Contract Phase 3		3QFY98							147,861	147,861	
Kinematics Contract		2QFY01							130,311	130,311	
Miscellaneous Contracts	FFP	Dec 95 - Mar 96	N/A	N/A	4,851	981	721	424	1,735	8,712	
Support and Management Organizations	gement Organiza	tions									
COEA	PO/MIPR	Jan 94			3,358	0	0	0	0	3,358	
Contractor Support	PR/REO	Oct 95 - Mar 96			3,508	3,706	2,834	2,962	32,133	45,143	
JSPO Operations	REO/MIPR	Oct 95 - Sep 96			12,298	3,185	800	200	1,850	18,333	
Test and Evaluation Organizations Gov't Test PO/MIPR	n Organizations PO/MIPR	Oct 95 - Sep 96			14,770	10,640	6,132	4,684	54,852	91,077	
	1			P	Page 6 of 7 Pages	səz			Exhibit R-3	2-3	

RDT	&E PROG	RAM ELE	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	T COST B	REAKDO	WN (R-3	<u> </u>	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	System De	velopment		PE NUMBEF 020716	PE NUMBER AND TITLE 0207163F Advanced		um Rang	Medium Range Air-to-Air Missile	ir Missile	
PROJECT NO. AND NAME 3777 AMRAAM	ME									<u>-</u>
(U) B. Budget Acq	uisition History	and Plannin	(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	(\$ in Thousand	[S]					
Government Furnished Property:	hed Property:									
Item Description	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Delivery <u>Date</u>	Total Prior to <u>FY 1995</u>	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Test and Evaluation Property TM/ECM Pods MIPR/F	<u>Property</u> MIPR/PO			2,110	268	0	0	4,400	6,778	
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	relopment Management aluation			127,728 19,164 16,880 163,772	46,056 6,891 10,908 63,855	34,647 3,634 6,132 44,413	18,037 3,162 4,684 25,883	311,780 33,983 59,252 405,015	538,248 66,834 97,855 702,937	
			3							
				Page 7 of 7 Pages	ies			Exhibit R-3	7-3	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	TION SI	HEET (R	-2 Exhit	oit)		DATE	March 1996	6
BUDGET ACTIVITY 7 - Operational System Development			PE NI 020	PE NUMBER AND TITLE 0207217F Pode	E NUMBER AND TITLE 0207217F Podded Reconnaissance System	econnais	sance S	ystem	- C	РRОЈЕСТ 3652
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate		Cost to Complete	Total Cost
3652 Joint Services Imagery Process System	0	0	6714	0	0	0	0		0	6714

(U) A. Mission Description and Budget Item Justification

- (U) The Podded Reconnaissance System (PRS) provides a responsive "under-the-weather" reconnaissance capability to support intelligence and targeting requirements of military, multinational, and other government agency users. It will provide a dedicated, on-demand, day/under-the-weather, selective aspect, literal imagery collection capability. It is intended to fill the high-threat, under-the-weather niche that cannot be accomplished by existing collectors such as space systems, Unmanned Aerial Vehicles, and the U-2. The PRS supports Combat Air Force (CAF) Mission Need Statement 328-93, Theater Airborne Reconnaissance System.
- system will provide a single forward looking EO framing sensor, sensor control, second sensor window, data recording, and internal pod environmental control. The pod (U) PRS will consist of 20 podded systems with embedded electro-optical (EO) sensor suites, five transportable Squadron Ground Stations, logistics support, and spares. will interface with the F-16 cockpit Electronic Warfare Management System. The ICC system will also provide space and environmental control required to implement Furthermore, this project includes tasks to develop and integrate the PRS on Air National Guard F-16C Block 30 aircraft. The PRS Initial Configuration Criteria (ICC) the Final Configuration Criteria (FCC) capabilities consisting of a second vertical/oblique EO sensor and provisions for a P3I (Pre-Planned Product Improvement) Common Data Link. FCC capability will be based on the integration of a Navy/Marine production Medium Altitude EO sensor.
- (U) The PRS program is in Budget Activity 7, Operational System Development, because the development activities in this PE will integrate currently available low-risk technologies (commercial/government off-the-shelf sensors, pods, etc...) into operational platforms.

Project Type
X New Start
Termination
Not Applicable

Page 1 of 5 Pages

Exhibit R-2 (PE 0207217F)

Item 113

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	IN SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207217F Podded Reconnaissance System	
(U) A. Mission Description and Budget Item Justification - Continued		
(U) <u>FY 1995</u> - (U) \$0 Total		
(U) <u>FY 1996</u> Note: As of the 1997 President's Budget, there are no funds in FY96 for the Preprogrammed to initiate the program.	FY96 for the Podded Reconnaissance program. However, \$3,000 (FY 1996, RDT&E) is planned to be	996, RDT&E) is planned to be
– (U) \$0 Total		
(U) FY 1997 - (U) \$1,546 Flight test reconnaissance pods - (U) \$556 Non-recurring engineering - (U) \$1,830 Procure hardware - (U) \$130 Perform testing and engineering - (U) \$167 Integrate hardware onto platforms - (U) \$625 Support equipment (flight line test sets) - (U) \$42 Data (flight line test set manuals) - (U) \$1,208 Associated contractor agreements - (U) \$278 Engineering change orders - (U) \$332 Mission support - (U) \$6,714 Total		
Project 3652	Page 2 of 5 Pages Exhib	Exhibit R-2 (PE 0207217F)
	1283	Item 113

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SHEET (R-2	Exhibit)		DATE March 1996	966
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207217F Pode	. _E dded Recon	ोगा। Podded Reconnaissance System	ystem	PROJECT 3652
(U) B. Project Change Summary (\$ in Thousands)			Total		
(U) Previous President's Budget	FY 1995 FY 1996 0 0	$\frac{\text{FY } 1997}{0}$	Cost 0		
(U) Adjustments to Appropriated Values a. Below Threshold Reprogrammings b. General Congressional Reductions					
c. Small Business Innovative Research (U) Adjustments to Budget Since FY96 PB		7.000			
b. Nonpay Purchases Inflation Adjustment (U) Current Budget Submit/President's Budget	0 0	-286 6,714	6,714		
(U) Change Summary Explanation:Funds were added for Podded Reconnaissance System. Subsequently, the FY97 RDT&E estimate was reduced by \$286 due to revised economic assumptions.	ınce System. Subse	quently, the FY9	97 RDT&E estim:	ate was reduced by \$2	86 due to
Schedule: N/A (new start)					
Technical: N/A (new start)					
(U) C. Other Program Funding Summary (\$\sec{8}\$ in Thousands)				L	To Total
Appropriation 3010, Procurement 0 0*	$\frac{\text{FY } 19\overline{97}}{0} \frac{\text{FY } 1998}{0} \overline{)}$	FY 1999 FY 3	FY 2000 FY 2001 0	Compl 0	
* \$33,700 (FY 1996, Procurement) is planned to be reprogrammed to the Podded Reconnaissance System Program Element	Reconnaissance Syst	tem Program El	ement.		
(U) D. Schedule Profile		-	FY 1997		
	o ×	-			
Project 3652	Page 3 of 5 Pages		Exhit	Exhibit R-2 (PE 0207217F)	ř)

RDT&E	RDT&E PROGRAM ELEMENT		PROJECT	COST BREAKDOWN (R-3)	=AKDOV	WN (R-3)		DATE March 1996	966
BUDGET ACTIVITY 7 - Operational System Development	em Developme	nt		PE NUMBER AND TITLE 0207217F Pode	AD TITLE Podded	Reconna	ो गा⊓. Podded Reconnaissance System		PROJECT 3652
(U) A. Project Cost Breakdown (\$ in Thousands)	kdown (\$ in Thousan	(sp							
Fight test reconnaissance pods Non-recurring engineering Non-recurring engineering Procure hardware Perform testing and engineering Integrate hardware onto platforms Support equipment (flight line test sets) Data (flight line test set manuals) Associated contractor agreements Bugineering change orders Mission support * The USAF plans to reprogram \$3,000 FY 1996 RDT&E funds in order to perform the above project activities in FY 1996 (U) B. Budget Acquisition History and Planning Information (\$in Thousands)	ring forms ne test sets) nents gram \$3,000 FY 1996	RDT&E funds in o	FY 1995 order to perfering Thousand	FY 1996 * * form the above proj	7966	FY 1997 1,546 556 1,830 130 167 625 42 1,208 278 332 6,714 ties in FY 199	9,		
Contractor or Contract Government Method/Tyl Performing or Funding Activity Vehicle	ations: Contract Method/Type Award or or Funding Obligation Vehicle Date	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to <u>FY 1995</u>	FY 1995	FY 1996	FY 1997	Budget to Complete	to Total <u>te Program</u>
Product Development Organizations TBD TBD	uzations TBD	TBD	TBD	N/A (New Start)	0	0	TBD		0 TBD
Support and Management Organizations TBD TBD TBD	<u>rganizations</u> TBD	TBD	TBD	N/A (New Start)	0	0	TBD		0 TBD
Test and Evaluation Organizations TBD TBD	<u>zations</u> TBD	TBD	TBD	N/A (New Start)	0	0	TBD		0 TBD
Project 3652			Pa	Page 4 of 5 Pages 1285			Exhib	Exhibit R-3 (PE 0207217F	F) Item 113



RDT&E PROC	GRAM EL	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BRE	AKDOV	/N (R-3)	DATE	ĺ	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	evelopmer	14	PE NUMBER AND TITLE 0207217F Pode	D TITLE Podded	Reconnai	ोमार Podded Reconnaissance System	1	9RC 36	PROJЕСТ 3652
Government Furnished Property:									
Contract Method/Type Item or Funding Description Vehicle	Award or Obligation Date	Delivery <u>Date</u>	Total Prior to FY 1995	FY 1995	FY 1996	FY 1997	Bud	Budget to Complete	Total Program
Product Development Property TBD TBD	TBD	TBD	N/A (New Start)	0	0	TBD		0	TBD
Support and Management Property TBD	TBD	TBD	N/A (New Start)	0	0	TBD		0	TBD
Test and Evaluation Property TBD TBD	TBD	TBD	N/A (New Start)	0	0	TBD		0	TBD
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project			Total Prior to FY 1995 N/A (New Start) N/A (New Start) N/A (New Start) N/A (New Start)	FY 1995 0 0 0	FY 1996 0 0 0 0	FY 1997 TBD TBD TBD 6,714	Bud	Budget to Complete 0 0 0 0	Total Program TBD TBD TBD TBD
* The USAF plans to reprogram \$3,000 FY 1996 RDT&E funds in order to initiate the Podded Reconnaissance program in FY96.	53,000 FY 199	6 RDT&E funds in order to ini	itiate the Podded	Reconnaissa	ıce program	n FY96.			
Project 3652		. Pe	Page 5 of 5 Pages			Exhibit F	Exhibit R-3 (PE 0207217F)	'217F)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION SI	HEET (F	R-2 Exhi	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development		PE N 02(PE NUMBER AND TITLE 0207247F Air F	DE NUMBER AND TITLE 0207247F Air Force TENCAP	TENCAP				
PROJECT NO. AND NAME 0001 Air ForceTENCAP									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
0001 Air ForceTENCAP	23,232	20,707	20,116	19,225	20,103	20,695	20,984	Continuing	Continuing
Air Force TENCAP is a Congressionally directed program to provide the Tactical Exploitation of National Capabilities (TENCAP). The objective of TENCAP is to improve warfighting capabilities and effectively leverage the billions invested in our national systems for the warfighter. TENCAP expedites improvements to Air Force combat capabilities by performing operational concept demonstrations with rapid prototyping. Therefore, TENCAP is not a developmental program per normal acquisition guidelines. However, TENCAP does support future operational systems development. To enhance combat effectiveness, TENCAP will focus in three areas:	to provide t he billions ir pt demonstra uture operati	he Tactical ivested in or ations with 1	Exploitation ar national si rapid prototy si developme	of National ystems for th ping. There int. To enha	Capabilities le warfighter rfore, TENC nce combat	(TENCAP). TENCAP a for a contraction of the contrac	The objecti expedites im levelopments , TENCAP v	ive of TENC provements al program p will focus in	AP is to to Air er normal three
 (U) 1) Exploit existing national systems for the tactical warfighter (TENCAP will conceive and demonstrate capabilities to exploit national systems). (U) 2) Educate warfighters about national systems capabilities (in the form of training, exercises, and readiness activities). (U) 3) Influence the design and operation of new national systems for the warfighter by advocating tactical impacts of the new systems (in the form of analysis and integration of national systems into roadmaps and architectures for Air Force weapons/C⁴1 systems). 	l warfighter (abilities (in that systems fand architec	TENCAP whe form of the form of the warfitteness for Air	vill conceive raining, exer ghter by adv r Force weap	and demons cises, and re ocating tacti oons/C ⁴ I syst	trate capabil adiness activical impacts ems).	ities to explo vities). of the new s	oit national s	ystems). e form of an	alysis and
Since this effort supports fielded systems, it is in the budget	et activity #7	Operationa	activity #7 Operational Systems Development.	evelopment.					
(U) \$\frac{FY 1995 (\\$ \text{in Thousands})}{\text{-Talon Command (Support command and control)}} = (U) \\$21,882 \text{Exploited the tactical use of existing national systems for the warfighter in six Talon areas.} = \text{-Talon Command (Support mission planning)}} = \text{-Talon Ready (Support mission planning)}} = \text{-Talon Rhooter (Support for weapons delivery)}} = \text{-Talon Knight (Support Special Operations)}} = \text{-Talon Fouch (Disseminate TENCAP information)}} = \text{-Talon Vision (Integrate real-time national system information)}} = \text{-(U) \\$300} \text{Training, education, exercises and readiness of national systems}} = \text{-(U) \\$23,232} \text{Total}	national syst and and contro uning) as delivery) erations) AP informatic ational syste addiness of n	tems for the oil) m informati ational systeud impact o	warfighter i on) mns of new nation	n six Talon a	areas.				
	:	Page I of 4 Pages	'4 Pages				Exhibit R-2	-5	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996	
BUDGET ACTIVITY 7 - Operational System Development O207247F Air Force TENCAP		
0001 Air Force TENCAP		
FY 1996 (\$\\$\frac{\\$}\\$\\$\ in Thousands): (U) \$17,128 Exploit the tactical use of existing national systems for the warfighterTalon Warrior (Support for training, exercises, and TENCAP applications)Talon Ready (Support mission planning)Talon Shooter (Support for weapons delivery)Talon Knight (Support for Air Force C2 systems)Talon Command (Support for Air Force C2 systems)Talon Vision (Support for emerging technologies and applications)Talon Vision (Support for emerging technologies and applications) (U) \$1,075 Transition of TENCAP Concept Demonstrations to field (U) \$2,504 Program support (U) \$20,707 Total		
FY 1997 (\$ in Thousands): (U) \$16,334		
Page 2 of 4 Pages	Exhibit R-2	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHEET	(R-2 Exhib	it)	DATE March 1996	1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207247F Air F	PENUMBER AND TITLE 0207247F Air Force TENCAP	TENCAP		
PROJECT NO. AND NAME 0001 Air ForceTENCAP					
(U) B. Program Change Summary (\$ in Thousands)					
(U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Volume	95 FY 1996* 54 21,966 83	$\frac{\text{FY } 1997}{21,079}$	Total <u>Cost</u> Continuing		
a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming Adjustments to Budget Years Since FY 1996 PB Current Budget Submit/President's Budget	-719 -482 -432 -459 -318 ,200 20,707	-963** 20,116	Continuing		
 (U) Change Summary Explanation: Not applicable Funding: Multiple Below Threshold Reprogramming activities for FY96 * The FY96 PB amount does not reflect funding reductions that are reserved for other DoD reprogramming needs (\$228) ** FY97 reductions include \$858 in non-pay inflation and a \$105 RDT&E O&M reduction. Schedule: N/A 	·FY96 is that are reserved fo ta \$105 RDT&E O&	r other DoD repre M reduction.	ogramming needs (\$22	8)	
Technical: N/A					
(U) C. <u>Under Program Funding Summary (\$ in I nousands)</u> <u>FY 1995</u> (U) Other Procurement, BA 3, BPAC 2070 608 203	FY 1997 FY 1998 199	998 FY 1999 199 200	FY 2000 204 FY 2001 209	To Compl Cont	Total C <u>ost</u> Cont
(U) D. Schedule Profile: Not applicable. TENCAP is not organized as an acquisition program.	n acquisition prograr	ť			
	Page 3 of 4 Pages 1289			Exhibit R-2	





RDT&E BUDGE	BUDGET ITEM JUST	TIFICATION SHEET (R-2 EXHIBIT)	N SHEET	r (R-2 EX	HIBIT)		DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	oment		PE NUMBER AND TITLE 0207247F Air F	AND TITLE	Air Force TENCAP	٩Þ		
PROJECT NO. AND NAME 0001 Air ForceTENCAP								
(U) A. Project Cost Breakdown (\$ in Thousands): Not applicable.	iousands): Not appli	icable.		-				
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	Planning Informatio	n (S in Thousar	(spu					
Performing Organizations:								
Contractor or Contract Government Method/Type Award or Performing or Funding Obligation Activity Vehicle Date	d or Performing ation Activity EAC	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget <u>FY 1995</u>	Budget FY 1996	Budget FY 1997	Budget to <u>Complete</u>	Total <u>Program</u>
Product Development Organizations: None.	a.i							
Support and Management Organizations: Multiple Various Multiple Lockheed Martin CPAF Sep 95	ple 5 Cont	Cont	18,510	23,232	20,707	20,116	Cont	Cont
Test and Evaluation Organizations: None.								
Government Furnished Property: Not applicable. No Government property furnished to non-Government entities.	oplicable. No Govern	nment property 1	furnished to no	on-Governme	nt entities.			
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation			0 18,510 0	0 23,232 0	0 20,707 0	0 20,116 0	0 Cont 0	0 Cont 0
Total Project			18,510	23,232	20,707	20,116	Cont	Cont
		P	Page 4 of 4 Pages	zes			Exhibit R-2	2-2

RDT&E BUDGET ITEM JUSTIFICATION	STIFICATION SHEET (R-2 Exhibit)	March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development*	0207268F / 0604268F Acft Eng Component Improvement Pgm	provement Pgm
PROJECT NO. AND NAME		
1012 Aircraft Engine CIP		

*0604268 in FY 95 in BAS

1012 Aircraft Engine CIP

Continuing

Continuing

101,467

200'66

94,804

93,905

99,050

124,711

92,376

Total Cost

Cost to Complete

FY 2001 Estimate

FY 2000 Estimate

FY 1999 Estimate

FY 1998 Estimate

FY 1997 Estimate

FY 1996 Estimate

FY 1995 Actual

COST (\$ In Thousands)

(U) A. Mission Description and Budget Item Justification

assume a viable CIP effort is in place. Without the outyear cost avoidance provided by CIP, outyear support costs would have to be increased drastically. CIP funding Numerous new problems can develop in the engines through actual use during deployment, production, and service, and CIP provides the only funds to develop fixes for these field problems. CIP starts with delivery to the user of the first system (aircraft + engine) purchased with procurement funds and continues over the engine's Historically, R&M related CIP efforts reduce outyear Operations and Maintenance (O&M) and spares costs by a ratio greater than 21 to 1. O&M and spares budgets sustain engines beyond their estimated life. Historically, aircraft systems change missions, tactics, and environments to meet changing threats throughout their lives. life, gradually decreasing to a minimum level (safety/depot repairs) sufficient to keep older inventory engines operational. CIP addresses out-of-warranty usage and revealed deficiencies, to improve system Operational Readiness (OR) and Reliability and Maintainability (R&M), to reduce engine Life Cycle Cost (LCC), and to life and enables the Air Force to obtain additional warranties when manufacturers incorporate CIP improvements into production engines. Since operational and continued satisfactory system performance at affordable costs. CIP ensures continued improvements in engine R&M factors, which reduce outyear support costs. is driven by field events and types/maturity of engines, not by the total engine quantity. This program is in budget activity 7 - Operational System Development, CIP provides critical sustaining engineering support (only source) for in-service Air Force engines to maintain flight safety (highest priority), to correct service safety problems arise throughout a system's service life, CIP must be maintained at a level to provide the engineering support to make the changes essential for Research Category 6.6 beginning in FY97 because all efforts support fielded systems.

(U) FY 1995 (\$ in Thousands):

- scheduled and unscheduled engine removals, maintenance man hours, and overall costs. Program included approximately 9181 test hours Continued efforts to increase engine operability and supportability, reduce air aborts, aircraft safety incidents, non-mission capable rates, (8291 sea level, 890 altitude), to analyze, verify and qualify CIP tasks.
 - 675 CIP tasks. (231 redesign tasks, 373 repair development tasks, 71 analysis tasks) generated \$2.5 Billion in potential LCC savings/cost avoidance. (U) \$92,376
 - (U) \$92,376

(U) FY 1996 (\$ in Thousands):

1291

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Exhibit R-2

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICATION	N SHEET (F	R-2 Exhib	it) DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development*		PE NUMBER AND TITLE 0207268F / 0604268F	TITLE 0604268F	Acft Eng Component Improvement Pgm	mprovement Pgm
PROJECT NO. AND NAME 1012 Aircraft Engine CIP					
 (U) \$ 95,225 Continue efforts to increase engine operability and supportability, reduce air aborts, aircraft safety incidents, non-mission capable rates, scheduled and unscheduled engine removals, maintenance man hours, and overall costs. Program will include approximately 8500 test hours (7100 sea level, 1300 altitude, 100 flight test), to analyze, verify and qualify CIP tasks; 540 CIP tasks (209 redesign tasks, 278 repair development tasks, 53 analysis tasks) generating \$3.1 Billion in potential LCC savings/cost avoidance. (U) \$ 29,486 Non-recurring engineering to support re-engining of the RC-135 fleet. These funds are being transferred via a reclassification reprogramming (DD-1415-3) to PE35154F, Defense Airborne Reconnaissance Program to support this Congressionally directed project. Current TF33 engines are becoming difficult and costly to support. GAO report number GAO/NSIAD-92-305, Aug 92, estimates cost savings of \$1.7B over 25 years. 	verability and su novals, mainten ght test), to ana generating \$3.1 re-engining of t irborne Reconn pport. GAO rep	ance man hours, an alyze, verify and que Billion in potentia the RC-135 fleet. I asissance Program tour number GAO/	a air aborts, air doverall costs diffy CIP tasks; I LCC savings, hese funds are o support this NSIAD-92-305	operability and supportability, reduce air aborts, aircraft safety incidents, non-mission capable rates, emovals, maintenance man hours, and overall costs. Program will include approximately 8500 test hours light test), to analyze, verify and qualify CIP tasks; 540 CIP tasks (209 redesign tasks, 278 repair) generating \$3.1 Billion in potential LCC savings/cost avoidance. It re-engining of the RC-135 fleet. These funds are being transferred via a reclassification reprogramming Airborne Reconnaissance Program to support this Congressionally directed project. Current TF33 engines support. GAO report number GAO/NSIAD-92-305, Aug 92, estimates cost savings of \$1.7B over 25 years.	on capable rates, mately 8500 test hours isks, 278 repair fication reprogramming Current TF33 engines s of \$1.7B over 25 years.
 (U) FY 1997 (\$\$ in Thousands): Change in PE in report title reflect change to Operational Systems Development Budget Activity (U) Continue effort to increase engine operability and supportability, reduce air aborts, aircraft safety incidents, non-mission capable rates, scheduled and unscheduled engine removals, maintenance man hours, and overall costs. To include approximately 600 CIP tasks (230 redesign tasks, 300 repair development tasks, 70 analysis tasks) and 7500 hours of testing, generating \$2.6 Billion in potential Life Cycle Cost savings/cost avoidance. (U) \$\$ 99,050 Total 	le reflect change erability and suj novals, mainter it tasks, 70 anal	e to Operational Symportability, reduce nan hours, and sist tasks) and 750	stems Develops air aborts, airc id overall costs 0 hours of test	nent Budget Activity raft safety incidents, non-missio . To include approximately 600 ng, generating \$2.6 Billion in p	on capable rates,) CIP tasks (230 ootential Life Cycle Cost
(U) B. Program Change Summary (S in Thousands) [FY95]	and FY96 dat	5 and FY96 data from PE 0604268F supplied for continuity]	8F supplied fo	r continuity]	
 (U) Previous President's Budget (FY96) (U) Appropriated Value (II) Adjustments to Appropriated Value 	[0604268F] <u>FY 1995</u> 92,564 95,399	[0604268F] <u>FY 1996</u> 103,700 133,230	FY 1997 105,600	Total <u>Cost</u> Continuing	
	-1,043 -1,792 0 -130 -58	-2,608 -3,138 -2,773 0	-6,550 99,050	Continuing	
(U) Change Summary Explanation:	d d	Page 2 of 5 Pages		Exhibit R-2	it R-2
		1292			

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

PE NUMBER AND TITLE

BUDGET ACTIVITY

7 - Operational System Development*

March 1996

0207268F / 0604268F Acft Eng Component Improvement Pgm

PROJECT NO. AND NAME

1012 Aircraft Engine CIP

but without prejudice. Congress also added \$31,500 in FY96 to conduct non-recurring engineering in support of RC-135 re-engining. The FY96 Above Funding: FY96 Appropriation for CIP (under PE 0604268F) reduced to \$101,730. The Congress disallowed the portion of the program intended for B-2 support, Threshold Reprogramming line includes \$1.381M for Bosnia, and \$1.392M for F-16s for Jordan.

Advisory Group assesses the program and budget annually and reviews progress regularly to reconcile budget reductions, shifting priorities, and newly Schedule: To accommodate funding cuts in FY95, lower priority tasks in FY95 were deferred to FY96 and will be prioritized with FY96 tasks. The Engine dentified, urgent problems.

Technical: No change.

(U) C. Other Program Funding Summary (\$ in Thousands): Not Applicable

RELATED ACTIVITIES 9

- (U) PE # 0603202F, Aircraft Propulsion Subsystem Integration, provides fan and low pressure turbine technology
- (U) PE # 0603216F, Advanced Turbine Engine Gas Generator, provides compressor, combustor, and high pressure turbine technology
 - (U) PE # 0604218F, Engine Model Derivative Program, provides additional component and engine test data
- (U) PE # 0708011F, Industrial Preparedness Program, provides materials processing and component fabrication demonstration
 - (U) PEs # 0604268A and #0604268N, Army/Navy Aircraft Engine CIPs for prior years
- (U) PEs # 0207268A and #0207268N, Army/Navy Aircraft Engine CIPs for FY96 and following years
- Schedule Profile: Not Applicable. CIP is a level of effort program that funds some 600 separate engineering tasks. Most are completed within two years. (J) D.

Page 3 of 5 Pages

Exhibit R-2

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RD	RDT&E PROGRAM ELEMENT/	SRAM EL	EMENT/F	PROJECT COST BREAKDOWN (R-3)	COST BF	REAKDO	WN (R-3	~	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development*	I System De	evelopmen	*_		PE NUMBER AND TITLE 0207268F / 0604	0207268F / 0604268F		Eng Com	ponent Im	Acft Eng Component Improvement Pgm	шí
PROJECT NO. AND NAME 1012 Aircraft Engine CIP	AME Igine CIP										
(U) A. Project Cost Breakdown (\$ in Thousands)! A project cost breakdown is not applicable to this Program, because there are no individual projects, but several hundred independently managed tasks. The bulk of the funding goes to the major engine manufacturers. The FY96 costs are broken down as follows. Cost breakdow follow-on years is expected to be of similar proportions.	st Breakdown (6 ntly managed tasl xpected to be of s	\$ in Thousand ks. The bulk o	A project	ost breakdown goes to the majc	is not applicat or engine mam	ole to this Pro facturers. Ti	gram, becaus he FY96 costs	e there are no s are broken o	individual pro lown as follow	i cost breakdown is not applicable to this Program, because there are no individual projects, but several goes to the major engine manufacturers. The FY96 costs are broken down as follows. Cost breakdown for	ı for
				FY95		FY96	$\overline{\text{FY97}}$				
	Contrac	Contracted Tasks:		\$ 83,316	\$ \$107,463		\$ 83,296				
	AFFTC	AFFTC Flight Tests:		1,445		2,016	3,020				
	AEDC	AEDC Altitude Tests:		4,492		895,6	4,904				
	Petrole	Petroleum/Oil/Lubricants:	ants:	2,184		4,748	6,530				
	Missio	Mission Support:		939		916	1,300				
	PE TOTAL	TAL		92,376	5 124,711	711	99,050				
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands): year. The contract to Boeing is for the re-engining of RC-135 RIVET JOINT aircraft.	quisition Histor to Boeing is for t	y and Plannin the re-engining	g Information ; of RC-135 RI	on (\$ in Thousands): RIVET JOINT aircraft	_	íracts are awa	ırded on a cal	endar year ba	ısis; normally i	CIP contracts are awarded on a calendar year basis; normally in January of each	
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations GE-Evandale, CPAF	ent Organization CPAF	<u>s</u> Jan 96	NA	NA	0	\$43,681	\$35,539	\$41,850	CONT	CONT	
Pratt & Whitney	CPAF	Jan 96	NA	NA	0	33,389	35,645	35,637	CONT	CONT	
GE-Lynn, MA	CPFF	Jan 96	NA	NA	0	2,266	2,500	2,551	CONT	CONT	
Allison	CPFF	Jan 96	NA	NA	0	1,453	1,469	1,300	CONT	CONT	
Teledyne	CPFF	Jan 96	NA	NA	0	800	790	733	CONT	CONT	
				P	Page 4 of 5 Pages	es			Exhibit R-3	2-3	

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	GRAM EL	EMENT/F	ROJECT	COSTB	REAKD(OWN (R-	3)	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development*)evelopmer	14*		PE NUMBEI 020726	PE NUMBER AND TITLE 0207268F / 0604268F		Eng Com	ponent In	Acft Eng Component Improvement Pgm
PROJECT NO. AND NAME 1012 Aircraft Engine CIP									
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle Allied Signal CPFF Garrett CPFF Boeing FFP	Award or Obligation Date Jan 96 Jan 96 Est Nov 96	Performing Activity EAC NA NA NA 829,486	Project Office EAC NA NA NA S29,486	Total Prior to FY 1995 0 0	Budget FY 1995 735 992	Budget FY 1996 1,278 1,756 \$29,486	Budget FY 1997 1,200 25	Budget to Complete CONT CONT	Total Program CONT CONT S29,486
Support and Management Organizations In-house Support Petroleum/Oil Lubricants	zations				939	916	1,300 6,530	CONT	CONT
Test and Evaluation Organizations Air Force Flight Test Center Arnold Engineering Development Center	<u>s</u> Center				1,445	2,016 9,568	3,020 4,904	CONT	CONT
Government Furnished Property: None	v: None								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation					83,316 3,123 5,937	107,463 5,664 11,584	83,296 7,830 7,924		
Total Project				·•	\$92,376	\$124,711	\$99,050		
	:		P_{ℓ}	Page 5 of 5 Pages	ies			Exhibit R-3	3





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION S	HEET (R	k-2 Exhil	bit)		DATE N	March 1996	6
BUDGET ACTIVITY 7 - Operational System Development		PE NI 020	PE NUMBER AND TITLE O207412F Thea	PENUMBER AND TITLE 0207412F Theater Air Control System	ir Contro	l System	_		
PROJECT NO. AND NAME 485L Ground Theater Air Control Sys (GTACS)							:		
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost

(U) A. Mission Description and Budget Item Justification

TBD

Continuing

836

826

802

622

242

6,555

Ground Theater Air Control Sys (GTACS)

Reissue 2 baseline, which works towards a Theater Missile Defense capability and the implementation of the Interim JTIDS Message Specification. This program is in budget activity 7 - Operational System Development, Research Category 6.6 because the Ground Theater Air Control System (GTACS) is a fielded, operational system replaces obsolete equipment (operator consoles, shelters, computers, radios, etc.) in the GTACS. The modernization upgrades C2 interoperability, flexibility, mobility, communications and worldwide operations. The P3I program is structured into multiple phases. Phase one consisted of the integration of secure anti-jam UHF radios, unsupportable. The GTACS RDT&E program consists primarily of the Modular Control Equipment (MCE) Pre-Planned Product Improvements (P3I) program which an upgrade to the weapons control and Joint Tactical Air Operations data link software (S/W), and development of a Chemical, Biological and Radiological protection interfaces. This program also includes production funding for JTIDS terminals, JTIDS Modules (JMs), JTIDS Interface Boxes (JIBs) and Operations Modules (OM) assigned mission. This program provides for major improvements to the existing Tactical Air Control System (TACS) which was designed in the 1960s and is now Ground Theater Air Control System (GTACS) provides the means through which the Air Component Commander exercises control of his forces to accomplish his Interface Kits, all of which are required to integrate JTIDS/COMM into the MCE. The planned phase includes a software interoperability upgrade to the TADIL-J capability, integration of secure anti-jam VHF (SINCGARS) radios and upgrades to the Ground Mobile Forces/Satellite Communications digital communications Information Distribution System (JTIDS)/Tactical Digital Information Link-J (TADIL-J) capability, the integration of an Automated Air Tasking Order (AATO) capability. These improvements have already been incorporated into the MCE production line. The current R&D includes the integration of a Joint Tactical currently undergoing major modifications/upgrades

Page 1 of 5 Pages

Exhibit R-2

RDT&E	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	Development	PE NUMBER AND TITLE 0207412F Theater Air Control System	
PROJECT NO. AND NAME 485L Ground Theater Air Control Sys (GTACS)	ontrol Sys (GTACS)		
(U) FY 1995 (\$ in The - (U) 720 Complet - (U) 580 Complet - (U) 810 Complet - (U) 2,354 Started 6 - (U) 2,091 Continue - (U) 6,555 Total	(\$ in Thousands) Completed MCE P3I OM Interface Kit development. Completed JIB development. Continued JM development. Effort completed 1 QTR FY96. Started development of interoperability upgrades to the MCE P3I system. Continued program support, test, and other miscellaneous efforts. Total	Y96. MCE P31 system. nus efforts.	
(U) <u>FX 1996</u> (\$ in The – (U) 152 Continus – (U) 90 Continus – (U) 242 Total	(\$ in Thousands) Continue development of interoperability upgrades to the MCE P3I system. Continue program support, test, and other miscellaneous efforts. Total	ne MCE P31 system. is efforts.	
(U) <u>FY 1997</u> (\$ in The – (U) 274 Continus – (U) 348 Continus – (U) 622 Total	(\$ in Thousands) Continue development of interoperability upgrades to MCE P3I system. Continue program support, test, and other miscellaneous efforts. Total	ICE P31 system. is efforts.	
	Pag	Page 2 of 5 Pages	Exhibit R-2





RDT&E BUDGET ITEM JUSI	LIFICATIO	N SHEET (TIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207412F Thea	ЭТІТLE Theater Air C	DE NUMBER AND TITLE OS 17 CONTROL System	u
PROJECT NO. AND NAME 485L Ground Theater Air Control Sys (GTACS)	·				
B. Program Change Summary (\$ in Thousands)			i	Total	
(U) Previous President's Budget (FY1997) (U) Appropriated Value	FY 1995 6,922 7,383	FY 1996 290 290	FY 1997 651	Cost	
(U) Adjustments to Appropriated value a. General Congressional Reductions b. Below Threshold Reprogramming c. SBIR	-461 -212 -146	9	•		
 d. Omnibus / Other Above Threshold Reprogramming (U) Adjustments to Budget since FY96 PB (U) Current Budget Submit/President's Budget 	6- 6,555	-42 242	-29	TBD	
(U) Change Summary Explanation: Funding: FY97 reduction (-29) is due to a revised inflation rate.	flation rate.				
Schedule: None					
Technical: None					
	á	Dana 3 of & Danas			Ryhihit R. C.
	7.0	ige 3 of 3 rages			

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ITEM JUS	TIFICAT	TION SH	EET (R-	2 Exhib	it)		DATE Ma	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	int		PE NUI 0207	PE NUMBER AND TITLE 0207412F Theater Air Control System	דור neater Ai	r Control	System			
PROJECT NO. AND NAME 485L Ground Theater Air Control Sys (GTACS)	TACS)									
(U) C. Other Program Funding Summary (§ in Thousands)	in Thousands)							E	ļ	
(U) Other Procurement AF Total	FY 1995 54,121	FY 1996 18 197	FY 1997 10.007	FY 1998 28.357	FY 1999 24 724	$\frac{\text{FY}}{21190}$	FY 2001	Compl Cont	Cost TRD	
Budget Activity 3, WSC 833040	47,955	7,472	4,011	22,847	22,897	20,649	20,063	Cont	TBD	
Budget Activity 3, WSC 834010 Budget Activity 3, WSC 83790A	0 0	0 0	0 0	0 0	00	0 0	0 0	0 0	TBD	
Budget Activity 4, WSC 84590A Budget Activity 6, WSC 86190A	6,166	0 10,725	5,993	5,510	0 1,827	0 541	00	0 Cont	6,166 TBD	
(U) D. Schedule Profile	'Y 199		FY	FY 1996		FY 1997	<u>Ľ</u> l			
(I) MCE P31 OM Interface Kit First *	2 3	4	1 2	m	4	7	4			
Article Award										
(U) MCE P31 OM Interface Kit	*									
(U) MCE P31 OM Interface EMD		×								
U) MCE P3I OM Interface Kit Follow-			×							
			:							
IOT&E					•		×			
(U) MCE P31 Initial Operational							×			
	×									
(U) JM Development Award				;						
	×			×						
(U) AATO IOC	×									
			Page 4 of 5 Pages	Pages				Exhibit R-2		-
								1]





RDT&E PROGRAM ELEMENT/PROJEC	/PROJECT COST BREAKDOWN (R-3)	KDOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207412F Thea	PE NUMBER AND TITLE 0207412F Theater Air Control System	m
PROJECT NO. AND NAME 485L Ground Theater Air Control Sys (GTACS)			
(U) A. Project Cost Breakdown (\$ in Thousands)			
FY	FY 1995 FY 1996	FY 1997	
(U) Product Development	4,217 152	274	
(U) Support and Management	1,618 90	148	
(U) Test and Evaluation	720 0	200	
(U) Total	6,555 242	622	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	usands)		
Not Applicable.			
	Page 5 of 5 Pages		Exhibit R-3

RDT&E BUDGET ITEM JUSTIFICATION	STIFICATION SHEET (R-2 Exhibit)	March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0207417F Air Borne Warning & Control Sys	
PROJECT NO. AND NAME		
411L Airborne Warning & Control Sys		

Continuing Cost to Complete 17,189 FY 2001 Estimate 16,426 FY 2000 Estimate 25,225 FY 1999 Estimate 29,782 FY 1998 Estimate 57,559 FY 1997 Estimate 90,722 FY 1996 Estimate 81,493 FY 1995 Actual COST (\$ In Thousands) 411L Airborne Warning & Control Sys

TBD

Total Cost

(U) A. Mission Description and Budget Item Justification

display capabilities for AWACS Controller Consoles as part of the RSIP and Block 30/35 weapon systems modernization efforts, thereby expanding AWACS - to - shooter Joint Tactical Information Distribution System (JTIDS) Class 2H/Tadil J and Navstar Global Positioning System (GPS) terminal integrations (collectively known as Block and control of tactical forces and for strategic defense of the U.S. These improvements include Electronic Support Measures (ESM), Central Computer Memory Upgrade, aircraft from maintenance downtime, and corrects deficiencies to meet operational requirements. C4ISR improvements include Link-16 data integration using improved This program develops and integrates system improvements which enable the E-3 AWACS to remain an effective, survivable airborne surveillance system for command capability against the evolving threats posed by low radar cross section fighters and cruise missiles, improve electronic counter measures (ECCM), and enhance man-machine interface. Extend Sentry is a collection of 100+ projects that target investment in three areas. Extend Sentry prevents grounding of aircraft, buys back Reconnaissance (C4ISR) Improvement efforts; and Have Quick A-Nets. RSIP will increase radar reliability and maintainability, restore required E-3 surveillance 30/35); the Radar System Improvement Program (RSIP); Extend Sentry effort; Command, Control, Communications, Computers, Intelligence, Surveillance, and interoperability. C4ISR also provides for HF radio upgrade and Tactical Information Broadcast System (TIBS). Category of research: Operational Systems Development. AWACS is a fielded, operational system currently undergoing major modifications/block upgrades/continuing sustainment.

(U) Acquisition Strategy:

Systems with fixed price options. JTIDS and GPS acquired via respective program office-awarded contracts. RSIP is a joint development with NATO. Boeing is prime integrating contractor, Westinghouse is sub for radar equipment items. FFP contract planned sole source to Boeing for production. Extend Sentry acquisition strategy Block 30/35: ESM is joint development with NATO. Priced FPIF options with Boeing for ESM and 30/35 Group A hardware. CC-2E contract with LORAL Federal approved, contract vehicle awarded, and tasks continually being added.

(U) FY 1995 (\$ in Thousands):

Blk 30/35 includes completion of Full Rate Production Milestone, starting trial install of mod kit into operational aircraft, complete ESM PCA, begin upgrade of FIT and Mission Simulator #1, start upgrade of Avionics Integration Support Facility (AISF) to provide an ESM software maintenance capability. - (U) \$12,661

RSIP activities include completion of the Joint US/NATO DT flight tests, start of US Operational Test and Evaluation (OT&E) flight program, and depot maintenance program, FCA/PCA and continuation of the depot maintenance capability development. - (U) \$42,722

- (U) \$26,110 TS-3 aircraft support, program sustaining efforts.

Exhibit R-2



Page 1 of 6 Pages



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICATIO	N SHEET (R-2 Exhibit)		DATE March 1996	966
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207417F Air B	DITILE Air Borne Warning & Control Sys	arning & Con	trol Sys	
PROJECT NO. AND NAME 411L Airborne Warning & Control Sys						
- (U) \$81,493 Total						
 (U) FY 1996 (\$\\$\) in Thousands): (U) \$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\	ng Electronic Lil 1 of FCA/PCA an ning efforts.	brary File (ELF) : id IOT&E.	restructure.			
 (U) FY 1997 (\$\frac{\pmathrm{FY}}{\pmathrm{in}}\$ 1997 (\$\frac{\pmathrm{in}}{\pmathrm{in}}\$ 1997 (\$\frac{\pmathrm{in}}{\pmathrm{in}}\$ 1995 (\$\frac{\pmathrm{in}}{\pmathrm{in}}\$ 2000 ENSIP activities include EMD closeout actions. (U) \$12,026 Extend Sentry efforts. (U) \$18,000 C41SR efforts (U) \$26,734 TS-3 aircraft support, program sustaining efforts. (U) \$25,759 Total 	t actions. actions. ning efforts.					
(U) B. Program Change Summary (S in Thousands)	FY 1995	FY 1996	FY 1997	Total <u>Cost</u>		44,000
(U) Previous President's Budget (U) Appropriated Value	82,208 85,643	96,696 96,696	38,753	TBD		·
	(1,663) (1,793) (694)	(2,237) (2,035) (1,702)				
Adjustments to Budget Tears (U) Current Budget Submit/President's Budget	81,493	90,722	57,559	TBD		
(U) Change Summary Explanation:						
	Pa	Page 2 of 6 Pages			Exhibit R-2	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	JUSTIFICAT	ION SHEET (R-2 Ex	hibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207417F Air Born	Air Borne Warning & Control Sys	
PROJECT NO. AND NAME 411L Airborne Warning & Control Sys				
Funding: FY97 reflects adjustments made during the PB formulation process. Schedule: RSIP IOT&E Complete slips from FY96/2 to FY96/3 (while planned IOT&E tests have been completed, formal IOT&E will remain open pending corrective action and critical performance fix verification - planned to be complete by June 96). The FY97 budget request does not require any adjustment. Technical: None	g the PB formulation process. 96/2 to FY96/3 (while planne ification - planned to be comp	formulation process. ⁷ Y96/3 (while planned IOT&E tests have been completed, formal IOT&E will remain open pendi - planned to be complete by June 96). The FY97 budget request does not require any adjustment.	een completed, formal IO' FY97 budget request doe:	RE will remain open pending not require any adjustment.
(U) C. Other Program Funding Summary (\$ in Thousands)	sands)			
(U) Aircraft Procurement, AF,BA-5 AWACS Mod 22	FY 1996 FY 1997 223,618 289,675	FY 1998 FY 1999 FY 2000 125,906 100,329 81,097	97 FY 2001 To Compl 97 82,900 TBD	nd Total Cost TBD
(U) D. Schedule Profile	$\frac{\text{FY 1995}}{3}$	FY 1996	FY 1997	
(U) RSIP DT & E Flight Test Complete (U) RSIP IOT & E Start (U) RSIP IOT & E Complete (U) RSIP PCA (U) RSIP PRAI I STAIL I Install 3QTR98 (U) RSIP RAA 1QTR00 (U) RSIP RAA 1QTR00 (U) RSIP RAA 1QTR00 (U) BLK 30/35 Full Rate Prod Decision (U) BLK 30/35 Full Rate Complete (U) BLK 30/35 Trial Install Complete (U) BLK 30/35 LRIP Kit Proof Complete (U) BLK 30/35 LRIP Kit Proof Complete (U) BLK 30/35 Support capability- O Level (U) BLK 30/35 RAA (U) BLK 30/35 RAA (U) BLK 30/35 RAA (U) BLK 30/35 RAA				
		Page 3 of 6 Pages		Exhibit R-2





RDT&	RDT&E PROGRAM ELEMEN	M ELEME	ENT/PRO	JECT CO	T/PROJECT COST BREAKDOWN (R-3)	AKDOM	/N (R-3)		DATE M	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	ystem Develo	pment		0	PE NUMBER AND TITLE 0207417F Air B) TITLE Air Born	STITLE Air Borne Warning & Control Sys	3 & Contr	ol Sys		
PROJECT NO. AND NAME 411L Airborne Warning & Control Sys	ing & Control S	ys									
(U) A. Project Cost Breakdown (S in Thousands)	reakdown (\$ in Th	iousands)								·	
				FY 1995	FY 1996		FY 1997				
(U) Contracts (U) MITRE/TEMS (U) GFE (U) Travel (U) Other (U) Total				62,639 6,954 7,301 1,180 3,419 81,493	66,033 10,889 8,273 605 4,922 90,722		54,214 1,635 100 715 895 57,559				
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	ition History and	Planning Info	ormation (S in	Thousands)							
Performing Organizations:	ions:										
Contractor or Government Performing	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations (U) Boeing(RSIP) C/FPIF (U) WECO(RSIP) C/FPIF (U) Boeing(Blk 30/35) SS/FPI (U) TBD (Extend Sentry) TBD (U) Counter Offensive Air Studies (U) RSIP Other P.O./M	C/FPIF C/FPIF SS/FPIF N) TBD Air Studies	9/89 9/89 5/87 N/A* N/A	88,500 327,400 N/A N/A N/A N/A	82,400 306,900 N/A N/A N/A N/A	101,252 309,903 382,191 0 1,623	2,257 19,319 10,850 0 13,953	0 0 5,021 29,500 7,654 23,000	0 0 799 30,026 10,481	0 0 0 26,148	103,609** 329,222** 398,811** 64,526 70,338	
* N/A based on Extend Sentry Acquisition Strategy which includes multiple contracts with multiple organizations with overlapping and continuing performance periods. ** Total Program includes US and NATO funding and covers contract plus planned ECPs.	Sentry Acquisition Ides US and NATO	Strategy whi funding and	ich includes m covers contrac	ultiple contract t plus plannec	cts with multij 1 ECPs.	ple organizat	tions with ov	erlapping an	d continuing	performance p	eriods.

Page 4 of 6 Pages

Exhibit R-3

RDT&E PROGRAM ELEMENT/	AM ELEM	ENT/PRO	JECT C	PROJECT COST BREAKDOWN (R-3)	AKDOW	/N (R-3)		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	opment			PE NUMBER AND TITLE 0207417F Air B	⊃ ΤΙΤLE Air Borne Warning & Control Sys	Warning	3 & Conti			
PROJECT NO. AND NAME 411L Airborne Warning & Control Sys	l Sys									
Contractor or Contract Government Method/Type or Performing Funding Activity Vehicle	r Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Support and Management Organizations (U) Support/TEMS MITRE/Other				359,611	8,925	10,044	2,845	Cont	TBD	
Test and Evaluation Organizations (U) Test System-3 ADAPT Contract/ Other test Activities				67,073	16,360	11,482	13,408	Cont	TBD	
(U) B. Budget Acquisition History and Planning Information Continued (\$\frac{8}{2}\$ in Thousands)	d Planning Inf	ormation Con	tinued (S in	Thousands)						
Government Furnished Property: None	ne									
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation				682,274 359,611 67,073	56,208 8,925 16,360	69,196 10,044 11,482	41,306 2,845 13,408	Cont Cont	TBD TBD CBT	
Total Project			,	1,108,958	81,493	90,722	57,599	Cont	TBD	
(U) C. Funding Profile (\$ in Thousands)	<u>IS)</u> EV 1005	EX 1006	EX 1007	HX 1005	7001	F001 XXI	ŗ			
Funds Profile FY 1995 Q1 FY 1995 Q2 FY 1995 Q3 FY 1995 Q4 FY 1995 Total	Obs 10,766 28,453 20,324 15,771 75,315	00ps	Obs	EXP 7,515 12,194 9,390 9,633 38,732	Exp Exp		Exp			
			Page	Page 5 of 6 Pages				Exhibit R-3	-3	
•				• (





RDT&E PROGRAM ELEMENT	RAM ELEM	IENT/PRC	JECT C	'PROJECT COST BREAKDOWN (R-3)	AKDOWN	(R-3)	DATE March 1996	
BUDGET ACTIVITY 7 - Operational System Development	elopment			PE NUMBER AND TITLE 0207417F Air B	тт∟Е Air Borne V	TITLE Air Borne Warning & Control Sys	trol Sys	
PROJECT NO. AND NAME 411L Airborne Warning & Control Sys	ol Sys							
Funds Profile FY 1996 Q1 FY 1996 Q2 FY 1996 Q3 FY 1996 Q4 FY 1997 Q1 FY 1997 Q2 FY 1997 Q2 FY 1997 Q4 FY 1998 Q1 FY 1998 Q1 FY 1998 Q1 FY 1998 Q4 FY 1998 Total	FY 1995 Obs 6,178 6,178	FY 1996 Obs 11,174 32,002 22,859 17,738 83,773 6,949 0 0 6,949	7,483 20,146 14,390 11,166 53,185 4,374	Exp 6,992 8,942 11,381 10,568 37,883 4,878 4,878	EX 1996 7,526 13,715 10,835 42,627 7,863 10,058 12,801 11,887 42,609 5,486 5,486 5,486 12,801 11,887 12,801 11,887 12,801 11,887 12,801 11,887 12,801 11,887 12,801 11,887 12,801 11,887 12,801 11,887 12,801 11,887 12,801 11,887 12,801 11,887 12,801 11,887 12,801	Exp Exp 5,180 8,634 6,648 6,821 27,283 4,950 6,331 8,058 7,483 26,822		
			Page	Page 6 of 6 Pages			Exhibit R-3	

0207419F Tactical Airborne Command & Control System **March 1996** DATE RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 4133 Airborne Battlefield Command Control Center Improvement 7 - Operational System Development PROJECT NO. AND NAME **BUDGET ACTIVITY**

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
4133 Airborne Battlefield Command Control Center Improvement	2,619	1,931	342	0	0	0	0	0	5,069

(U) A. Mission Description and Budget Item Justification

operations; from Forward Battle Coordination and coordination of Joint Forces, to Close Air Support, Air Drops, Search and Rescue and Crisis Management. Category of (JSTARS), Air Support Operations Center (ASOC), etc.) and directs attack from air, sea and/or land assets to targets in the theater of operations. It can also function as a integration of the Joint Tactical Information Distribution System (JTIDS), integration of the Air Force Single Channel Ground and Airborne Radio System (SINCGARS), The Airborne Battlefield Command and Control Center (ABCCC) provides rapid worldwide Command, Control, Communications and Computer (C4) capabilities to the can function in a stand alone mode during the absence of ground based units. The primary mission of the ABCCC is to provide on-scene theater battle management for Joint Force Air Component Commander or Joint Task Force Commander. During combat or contingency operations, ABCCC extends ground based C4I capabilities and research: Operational Systems Development, ABCCC is a fielded, operational system currently undergoing pre-planned product improvements (P3I) which includes the Combat Air Forces. It receives target nominations from the Air Operations Center (AOC) or other C4I systems(Joint Surveillance Target Attack Radar System direct extension of the AOC, and airborne ASOC, or the Air Component Commander's operations center. ABCCC supports functions across a broad spectrum of and upgrade of the Satellite Communications capabilities.

(U) FY 1995 (\$ in Thousands)

- (U) 228 SINCGARS Source Selection efforts
 - (U) 2,235 Start SINCGARS design effort
- (U) 156 Antenna location study
- (U) 2,619 Total

(U) FY 1996 (\$ in Thousands)

- (U) 566 Complete SINCGARS design
- (U) 1,108 Complete documentation and acceptance of SINCGARS First Article
- (U) 257 Conduct SINCGARS system verification, validation and test
- (U) 1.931 Total

1307

Page 1 of 4 Pages

Exhibit R-2





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (F	R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207419F Tact	ттге Tactical Airb o	rne Comma	ਹ ਸਸ∟∈ Tactical Airborne Command & Control System
PROJECT NO. AND NAME 4133 Airborne Battlefield Command Control Center Improvement				
(U) FY 1997 (\$ in Thousands) - (U) 286 Conduct SATCOM study - (U) 50 Pre-Planned product improvements cost estimates - (U) 6 Travel - (U) 342 Total				
(U) B. Program Change Summary (\$ in Thousands)			Total	
(U) Previous President's Budget (FY96) 2,779 (U) Appropriated Value 2,779	<u>FY 1996</u> 2,093 2,093	<u>FY 1997</u> 358	Cost 5,071	
a. General Congressional Reductions b. SBIR c. Ominibus and Other Above Threshold	. (96) (45) (21)			
Reprogramming d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY96 PB (U) Current Budget Submit/President's Budget	1,931	(16) 342	5,069	
(U) Change Summary Explanation: Funding: FY 1997 will be the final year of ABCCC RDT&E funding requirements.	equirements.			
Schedule:N/A				
Technical:N/A				
	Page 2 of 4 Pages			Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TEM JUSTIFICA	ATION SI	HEET (R-	2 Exhib	Œ		DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	ţ	PE NI 020	PE NUMBER AND TITLE 0207419F Tacti	rte Ictical Ai	rborne C	ommano	d & Contr	PE NUMBER AND TITLE 0207419F Tactical Airborne Command & Control System
PROJECT NO. AND NAME 4133 Airborne Battlefield Command Control Center Improvement	ol Center Improvem	ent						
(U) C. Other Program Funding Summary (\$ in Thousands)	Thousands)				,		É	E
(U)Aircraft Procurement Air Force, Budget Activity 5, C-130 Mods	FY 1995 4,081 7,110	5 <u>FY 1997</u> 47	FY 1998 50	FY 1999 516	FY 2000 54	FY 2001 54	10 <u>Compl</u> 0	Lotal <u>Cost</u> 13,008
Related RDT&E: None								
SINCGARS EMD Contract Award (May 95) PDR (Sept 95) CDR (Apr 96) DT&E (Jun 96) Operational Capabilities Demonstration (Dec 96) First Article Delivery (April 97) Production (April-Sept 97) Initial Operational Capability (Mar 97) Last Kit Delivery (Sept. 97)	FY 1995 1 2 3 X	4 × 1	FY 1996 2 3 X X	4 × ×	EY 1997 2 3	2007 3 X X X X X X X X X X X X X X X X X X X		
		Page 3 of 4 Pages	4 Pages			3	Exhibit R-2	2

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RDT&E PROGRAM ELEMENT/PROJEC	T COST BRE	PROJECT COST BREAKDOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207419F Tact	PE NUMBER AND TITLE 0207419F Tactical Airborne Command & Control System	nand & Control System
PROJECT NO. AND NAME 4133 Airborne Battlefield Command Control Center Improvement	ıt.		
(U) A. Project Cost Breakdown (S in Thousands)			
FY 1995	25 FY 1996	<u>36</u> FY 1997	
Development Systems Engineering Technical Data	590 136 521 268 0 181	31 31	
Lest Engineering/ Management Support Travel		22 22 11 6	
Research Personnel Miscellaneous	141 8	0 286 6 50	
Total 2	2,619 1,931	31 342	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands): Not required	ısands): Not require	d.	
	Page 4 of 4 Pages		Exhibit R-3

RDT&E BUDGET ITEM JUSTIFICATION	STIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0207423F Advanced Communications Systems	Systems

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	444	1,842	1,822	3,146	3,084	3,173	3,218	Continuing	TBD
1013 Theater Deployable Communications (TDC)	0	1,626	1,622	2,944	2,861	2,944	2,986	Continuing	TBD
2982 Anti-Jam Radio Communications	444	216	200	202	223	229	232	Continuing	TBD

(U) A. Mission Descriptions and Budget Item Justification

Radio System) provides anti-jam, VHF frequency hopping voice and data communications and is the primary means of ECCM communications between Air Force, Army, commercial-off-the-shelf (COTS) equipment, making this program budget activity 7, Operational System Development. The Theater Deployable Communications (TDC) provide the primary Air Force and DOD UHF Electronic Counter-Countermeasures (ECCM) voice communications. SINCGARS (Single Channel Ground and Airborne emerging technologies; provide software development support for the fielded HAVE QUICK family of radios; and determine and resolve integration issues pertaining to program provides funding for the research, development, test and evaluation for the modernization of operational deployable communications, and integration of COTS USMC aircraft and ground units involved in close air support and joint battlefield operations. RDT&E funds in this program element are used to examine appropriate develops and procures jam resistant ultra high frequency (UHF) and very high frequency (VHF) frequency hopping tactical radios. The HAVE QUICK UHF radios equipment that support tactical air operations in a combat environment. This includes the integration of deployable communications equipment for active duty, Air The Advanced Communication Systems program procures commercially available ground communications equipment for deployment to theaters of operations and National Guard combat communications and Theater Air Control System units.

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Exhibit R-2





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	CATION SHEI	ET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBE 02074;	PE NUMBER AND TITLE 0207423F Advanced Communications Systems	is Systems
(U) B. Program Change Summary (\$ in Thousands)			
Previous President's Budget (FY 1996) Appropriated Value	FY 1995 FY 1996 454 1,934 459	FY 1997 1,908	
 (U) Adjustments to Appropriated value a. General Congressional Reductions b. SBIR c. Ominibus and Other AboveThreshold 	(5) (37) (10) (37) (18)		
Activogramming d. Below Threshold Reprogramming Adjustment to Budget Years Since FY 1996PB (U) Current Budget Submit/President's Budget (U) Change Summary Explanation: Funding: Funding increase in FY 1996 is due to the transferring of Theater Deployable Communications production funds from PE 0207422F to PE 0207423F.	444 1,842 ng of Theater Deploy?	(86) 1,822 able Communications production funds fron	n PE 0207422F to PE 0207423F.
Schedule: N/A			
Technical: N/A			
	Dana 1 of 11 Pares	ones.	Exhibit R-2
***************************************	1 UKC 4 VI 11 4	uxes	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 EXHIBIT)	EM JUST	IFICAT	ON SH	EET (R-	2 EXHIE	3IT)		DATE Ma	March 1996	
BUDGET ACTIVITY 7 - Operational System Development			PE NUI 020	PE NUMBER AND TITLE 0207423F Adva	пте dvanced	Commu	PE NUMBER AND TITLE 0207423F Advanced Communications Systems	Systems		
(U) C. Other Program Funding Summary (\$ in Thousands)	Thousands)									
								To	Total	
	FY 1995	FY 1996	FY 1997		FY 1999	FY 1998 FY 1999 FY 2000	FY 2001	Compl	Cost	
(U) Other Procurement AF, Budget Activity 3,	0	0	0	0	0	0		0	51,182	
Weapon System Code 837100, PE 0207422F									•	
Other Procurement AF, Budget Activity 3,	23,616	26,628	26,345	33,135	32,044	31,935	31,744	Cont.	TBD	
Weapon System Code 837100, PE 0207423F							•			
(U) Other Procurement AF, Budget Activity 3,	0	0	0	0	0	0	0	0	8,478	
Weapon System Code 837290, PE 0207423F										
(U) Aircraft Procurement AF, Budget Activity 5,	1,556	1,921	352	0	0	0	0	0	22,227	-
Weapon System Code OTHACF, PE 0207423F										
(U) Operations and Maintenance AF, PE	179	1,078	1,845	2,502	3,309	4,437	5,644	Cont.		

Other Advanced Communication Systems Programs

(U) Operational and Maintenance AF PE 0207423F

coordinate, and control immediate close air support (CAS), reconnaissance, and airlift requests. The AFARN is operated by the Tactical Air Control Parties (TACPs) PACER SPEAK Operate the Air Force Air Request Net (AFARN), which the principal means of communications through which theater forces plan, request,

TBD

99

- HAVE QUICK Frequency-hopping UHF radio that provides jam-resistant voice and data communications.
- SINCGARS Secure, jam-resistant VHF frequency hopping voice and data communications system that can be configured in ground and airborne modes.
 - Digital Communications Terminal (DCT) The DCT is used for message generation and transmission over the AFARN by land maneuver units.

N/A Related RDT&E:

(U) D. Schedule Profile: See individual projects

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Exhibit R-2





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION S	HEET (R	-2 Exhil	oit)		DATE M	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development		PE NI 020	PE NUMBER AND TITLE 0207423F Adva	E NUMBER AND TITLE 0207423F Advanced Communications Systems	Commu	nications	s System	v	
PROJECT NO. AND NAME 1013 Theater Deployable Communications (TDC)									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost

(U) A. Mission Description and Budget Item Justification

TBD

Continuing

2,986

2,944

2,861

2,944

1,622

1,626

0

1013 Theater Deployable Communications (TDC)

As clearly demonstrated during Desert Shield/Desert Storm (DS/DS), today's generation of deployable communications equipment is bulky, inflexible in design and does not meet today's projected airlift availability or interoperability standards. Air Force planning calls for initial communications assets to be in place prior to the interoperability certification testing, begin development and implementation of integrated network management software, and to support field activities and conduct during deployment/employment, expansion and sustaining operations. Communications packages will be used by theater air control, combat communications, and special operations units as well as deployed air wings and mobility forces worldwide. Theater Deployable Communications (TDC) funds are accounted for in PE resulting Theater Deployable Communications (TDC) packages will reduce airlift requirements and be designed to support a wide range of operational scenarios integration activities. This program will research COTS equipment that will, either augment existing assets or replace tactical communications packages. The arrival of flying forces. Deployment priorities for DS/DS did not allow timely arrival of communications assets. Funds for this program are to complete joint 0207422F in FY95 and PE 0207423F after FY95; therefore, this is not a new start program.

(U) FY 1996 (\$ in Thousands)

- Communications architecture planning. 421 534
 - Development of automation tools. - (G)
- Support field interoperability and integration activities 671 99-
 - Total 1,626

(U) FY 1997 (\$ in Thousands)

- Communications architecture planning. <u>(G)</u>
 - Development of automation tools - (C)
- Field interoperablity and integration activities
- Total

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Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHEET	(R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207423F Adva	PE NUMBER AND TITLE 0207423F Advanced Communications Systems	s Systems
PROJECT NO. AND NAME 1013 Theater Deployable Communications (TDC)			
(U) B. Program Change Summary (\$ in Thousands)			
	25 FY 1996 1,713	FY 1997 1,699	
(U) Adjustments to Appropriated Value a. General Congressional Reductions b. SBIR c. Ominibus and Other Above Threshold Reprogramming	(33) (37) (17)		
d. Below Threshold Reprogramming (U) Adjustment to Budget Years Since FY 96PB (U) Current Budget Submit/President's Budget (96)	1,626	(77) 1,622	
(U) Change Summary Explanation:			
Funding: N/A			
Schedule: N/A			
Technical: N/A	₩ Aa.		
	Page 5 of 11 Pages		Exhibit R-2





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FEM JUS	TIFICAT	TION SH	EET (R.	2 Exhib	it)		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	ıt.		PE NU 020	PE NUMBER AND TITLE 0207423F Adva	TLE dvanced	Commu	TITLE Advanced Communications Systems	System	Şı	
PROJECT NO. AND NAME 1013 Theater Deployable Communications (TDC)	s (т р с)									
(U) C. Other Program Funding Summary (\$ in Thousands)	Thousands)									
(U) Other Procurement AF, Budget Activity 3,	FY 1995 25,395	FY 1996 0	FY 1997 0	FY 1998 0	FY 1999 0	FY 2000 0	FY 2001 0	To Compl 0	Total <u>Cost</u> 51,182	
Weapon System Code 83/100, PE 020/422F (U) Other Procurement AF, Budget Activity 3,	0	24,183	24,075	31,648	31,478	31,657	31,641	Cont.	TBD	
Weapon System Code 83/100, FE 020/423r (U) Operations and Maintenance AF, PE 0207422F	611	1,078	1,845	2,502	3,309	4,437	5,644	Cont.	TBD	
	·									· · · · · · · · · · · · · · · · · · ·
		:	Page 6 of 11 Pages	1 Pages				Exhibit R-2	2-2	
			101							

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207423F Advanced Communications Systems	
PROJECT NO. AND NAME 1013 Theater Deployable Communications (TDC)		
(U) D. Schedule Profile FY 1995 1 2 3 4	$\frac{\text{FY } 1996}{1 2 3 4 1 2 3 4}$	
)	II/II (LSWI)	
(U) Acquisition Milestones (U) Contract Milestones (U) Production SATCOM Contract Award		
(U) Production SATCOM Deliveries	X	
(U) Production Contract for Integrated Communication Access Packages (ICAP)	X	
(U) Production of Integrated Comminucations Access Packages (ICAP)	×	
(U) Integrated Net Mgt. Contract Award • Communication Architecture X		
(U) Complete SATCOM (O1) (1BD) (U) Complete ICAP (OT)	₹ .	
	Page 7 of 11 Pages	

1317 UNCLESIFIED



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICATION S	HEET (R-2	Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE N	PE NUMBER AND TITLE 0207423F Adva	D TITLE Advanced Communications Systems	ions Systems
PROJECT NO. AND NAME 1013 Theater Deployable Communications (TDC)				
(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u>				
	FY 1995	FY 1996	FY 1997	
 (U) Software Support (U) Engineering Support (U) Integration Activities (U) Travel (U) Miscellaneous (U) Total 	0 0	534 404 601 55 32 1,626	518 402 645 40 17 1,622	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	on (\$ in Thousands)			
Performing Organizations: ESC/TG				
Government Furnished Property: Not Applicable				
	Page 8 o	Page 8 of 11 Pages		Exhibit R-2

March 1996 0207423F Advanced Communications Systems RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 7 - Operational System Development 2982 Anti-Jam Radio Communications PROJECT NO. AND NAME **BUDGET ACTIVIT**

(U) A. Mission Description and Budget Item Justification

elements. The HAVE QUICK wave form used in these radios is the NATO standard for UHF anti-jam communications. The HAVE QUICK UHF radios provide the primary Air Force and DOD UHF Electronic Counter-Countermeasures (ECCM) voice communications. SINCGARS (Single Channel Ground and Airborne Radio The fast paced development of new frequency hopping radio technologies by potentially hostile nations dictates that the U.S. maintains a technological lead. Ultra System) provides anti jam, very high frquency (VHF) frequency hopping radios and data communications and is the primary means of ECCM communications high frequency (UHF) frequency hopping voice radios are needed for jam resistant communications between tactical aircraft and airborne and ground control between Air Force, Army, USMC aircraft and ground units involved in close air support and joint battlefield operations.

TBD

Continuing

232

229

223

202

200

4

Total Cost

Cost to Complete

FY 2001 Estimate

FY 2000 Estimate

FY 1999 Estimate

FY 1998 Estimate

FY 1997 Estimate

FY 1996 Estimate

FY 1995 Actual

COST (\$ In Thousands)

Anti-Jam Radio Communications

2982

(U) FY 1995 (\$ in Thousands)

Continued software support for the HAVE QUICK II radios.

Investigated improvements in anti-jam performance and other anti-jam techniques.

Continued support of SINCGARS Phase II Qualification Testing and support platform integration analyses. 85 - (C)

(U) FY 1996 (\$ in Thousands)

Continued software support for the HAVE QUICK II radios. 50

Investigate improvements in anti-jam performance and other anti-jam techniques. - (J)

Continue support of SINCGARS Phase II Qualification Testing and support platform integration analyses. 9

(U) FY 1997 (\$ in Thousands)

Continued software support for the HAVE QUICK II radios. 50 100 <u>-</u>

Investigate improvements in anti-jam performance and other anti-jam techniques. - (C)

Continue support of SINCGARS Phase II Qualification Testing and support platform integration analyses. 50

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RDT&E BUDGET ITEM JUS	TEM JUST	IFICATIO	TIFICATION SHEET (R-2 Exhibit)	DATE March 1996
вирсет Астіvіту 7 - Operational System Development	.		PE NUMBER AND TITLE 0207423F Advanced Communications Systems	. Systems
PROJECT NO. AND NAME 2982 Anti-Jam Radio Communications				
(U) B. Program Change Summary (\$ in Thousands)	(Spur			
(U) Previous President's Budget (FY 1996) (U) Appropriated Value	FY 1995 454 459	FY 1996 221	<u>FY 1997</u> 209	
(U) Adjustments to Appropriated Value a. General Congressional Reductions	& &	(4)		
b. SBLKc.OMINIBUS and Other AboveThresholdReprogrammings	(10)	(1)		
d. Below Threshold Reprogramming (U) Adjustment to Budget Years Since FY96 PB (U) Current Budget Submit/President's Budget	(15)	216	(9) 200	
(U) Change Summary Explanation: Funding: N/A				
Schedule: N/A				
Technical: N/A				
		Pa	Page 10 of 11 Pages	Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUSTIFIC	ATION S	HEET (R	-2 Exhib	it)		рате М а	March 1996
BUDGET ACTIVITY 7 - Operational System Development		PE 1	PE NUMBER AND TITLE 0207423F Adva	D TITLE Advanced Communications Systems	Commun	ications	Systems	
PROJECT NO. AND NAME 2982 Anti-Jam Radio Communications								
(U) C. Other Program Funding Summary (\$ in Thousands)	<u> Thousands)</u>			-				
(U) Other Procurement AF, Budget Activity 3,	FY 1995 FY 1996 0	96 FY 1997 0 0	FY 1998 0	FY 1999 0	$\frac{\text{FY } 2000}{0}$	FY 2001 0	To Compl 0	Total Cost 8,478
Weapon System Code 03/250, T.E. 020/423F (U) Aircraft Procurement AF Budget Activity 5, Weapon System Code OTHACF, PE 0207423F	1,556 1,9	1,921 512	0	0	0	0	0	23,230
(U) D. Schedule Profile								
(U) Software Support Efforts X	$\frac{\text{FY 1995}}{2} \qquad 4$	-×	FY 1996 2 3	4 1 X	FY 1997 2 3	3 4		
	*		×		×			
		Page 11 o	Page 11 of 11 Pages	į			Exhibit R-2	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION S	HEET (R	-2 Exhil	bit)		DATE M	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development		PE NU 020	PE NUMBER AND TITLE 0207431F Com	птге Sombat A	ir Intellig	PE NUMBER AND TITLE 0207431F Combat Air Intelligence System	stem		
PROJECT NO. AND NAME 1004 Pegasus									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
1004 Pegasus	0	0	7,749	996'9	5,194	4,431	3,581	Continuing	ТВО
(U) Note: Air Force will request reclassification of these funds into PE 0604321F	ls into PE 06	04321F.							
(U) A. Mission Description and Budget Item Justification (U) Combat Intelligence System (CIS) is the single, standard Air Force intelligence automation system optimizing both component and unit-level intelligence functions to provide warfighters with the most accurate and timely intelligence data available. CIS is the core capability for automating the receipt, correlation, and dissemination of intelligence and operational systems supporting combat planning and execution. It provides an automated capability at the component and unit levels to rapidly receive and process All-Source intelligence data to support Contingency Theater Automated Planning System (CTAPS) as the CIS builds and maintains in-theater situational awareness while deploying to the theater and provides indications and warning (I&W) support upon arrival. CIS provides the capability to receive all source intelligence near-real-time from national, theater, tactical reconnaissance, and intelligence functions. CIS is electronically interoperable and compatible with other intelligence systems to provide an integrated system capable of intelligence support to warfighters, decision makers, battle planners and mission planners.	Air Force intended avaint on a systems on a systems ource intellight ploying to the inational, the regrated systems	alligence autiliable. CIS i supporting ence data to theater and ater, tactica	omation syst is the core ca combat plan support Coi I provides in Il reconnaiss of intelligen	tem optimizi apability for ning and exe ntingency Th dications an ance, and in ce support to	ing both con automating i ccution. It p reater Auton d warning (I telligence fu varfighters	the receipt, c rovides an a nated Planni (&W) suppor nctions. CIS	unit-level in correlation, a utomated ca ng System ((rt upon arriv S is electroni akers, battle	telligence fund dissemina pability at the CTAPS) as that. CIS proceedly interoperally interoperally interoperance.	nctions to ation of e C C C C C C C C C C C C C C C C C C
(U) The preliminary intelligence portion of this program element is in PE 0604321F BA 5, Enginecring and Manufacturing Development, because it is developing new and upgrading current capability as the intelligence segment to Theater Battle Management Core Systems (TBMCS).	ent is in PE (Theater Bat)604321F B. tle Manager	A 5, Engined nent Core Sy	ering and Mistems (TBM	anufacturing ICS).	g Developme	int, because i	t is developii	ng new
(U) Acquisition Approach: Full and open competition leading to a cost plus award fee contract.	g to a cost plu	is award fee	contract.						
 (U) FY 1997 (U) \$5,579 (U) \$1,705 (U) \$1,705 (U) \$465 (D) \$7,749 (D) \$7,749 Continue studies for CIS intelligence interoperability.	er TBMCS. S software un e interoperab	der TBMCS llity.						i	
		Page 1 of 3 Pages	r 3 Pages				Exhibit R-2	7-	1322

RDT&E BUDGET ITEM JUST	USTIFICAT	HS NOI	IFICATION SHEET (R-2 Exhibit)	-2 Exhit	oit)		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development		PE NU 020	PE NUMBER AND TITLE 0207431F Com	TLE ombat Ai	r Intellig	PE NUMBER AND TITLE 0207431F Combat Air Intelligence System			
PROJECT NO. AND NAME 1004 Pegasus									
(U) B. Program Change Summary (\$ in Thousands)					F	-			
(U) Appropriated Value *	FY 1995 0 0		FY 1996 0	FY 1997 7,749	Cost TBD	D list st			
(U) Adjustments to Appropriated Value a. General Congressional Reductions b. SBIR c. Omnibus and Other Above Threshold	0		000						
Reprogrammings d. Below Threshold Reprogramming (U) Adjustments to Budget Year since PB96 (U) Current Budget Submit/President's Budget	0 0		0	7,749	TBD	О			
(U) Change Summary Explanation: Funding: Air Force will request reclassification of these funds into PE 0604321F	hese funds into Pl	E 0604321F							
Schedule:									
Technical:									
(U) C. Other Program Funding Summary (\$ in Thousands)	(spi						E	·	
(U) Other Procurement, PE 0207431F 5,406 Combat Air Intelligence System (Sentinel Byte renamed CIS)	1995 FY 1996 5,406 1,973	FY 1997 2,269	FY 1998 1,976	FY 1999 1,204	FY 2000 1,210	$\frac{\text{FY } 2001}{1,192}$	Comp Cont	TBD	
		Page 2 of 3 Pages	Pages				Exhibit R-2	•	1323





RDT&E BUDGET ITEM JUS	EM JUS	TIFICAT	TIFICATION SHEET (R-2 Exhibit)	EET (R.	2 Exhib	it		DATE Mar	March 1996	
BUDGET ACTIVITY 7 - Operational System Development			PE NUI 0207	PE NUMBER AND TITLE 0207431F Com	ITLE ombat Ai	r Intellig	отпте Combat Air Intelligence System			
PROJECT NO. AND NAME 1004 Pegasus	,									
(U) Other Procurement, PE 0207414F,	FY 1995 17,596	<u>FY 1996</u> 9,114	FY 1997 9,716	FY 1998 8,705	FY 1999 5,264	FY 2000 5,391	FY 2001 5,511	To Comp Cont	Total <u>Cost</u> TBD	
Combat Intelligence System (Proc) (U) RDT&E, PE 0604321F, Combat Intelligence System	8,313	3,617	1,943	1,625	995	1,024	1,038	Cont		
(U) D. Schedule Profile										
(U) Formal Request for Proposal (U) CIS 1.1 Release (U) Contract Award (U) Development Test & Evaluation (DT&E) Start (U) DT&E Complete for Software Increment (S/W) #1 (U) Initial Operational Test & Evaluation (IOT&E) Start (U) IOT&E Complete for S/W #1 X (U) Version Release S/W #1	FY 1997 2 3	4								
			Page 3 of 3 Pages	? Pages				Exhibit R-2		1324
			1 uge 2 0/ .	J. J. WKCD						

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION SI	HEET (R	-2 Exhil	oit)		DATE N	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development		PE NI 020	PE NUMBER AND TITLE 0207438F Theater Battle Management(TBM) C4I	пте heater B	attle Mar	nagemen	t(TBM) C	14	
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	28,476	27,844	30,915	14,980	12,411	12,484	11,133	Continuing	TBD
3330 Cmd Control Info Process Sys (C2IPS)*	6,631	5,701	5,779	0	0	0	0	0	18,111
4287 Contingency Theater Auto Plan Sys (CTAPS)	18,354	18,555	21,634	11,231	8,500	8,458	7,051	Continuing	TBD
4288 Wing C2 System (WCCS)	3,491	3,588	3,502	3,749	3,911	4,026	4,082	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

The Theater Battle Management Core Systems (TBMCS) develop force-level and wing-level command, control and intelligence systems which utilize the Air Force Component Commander (JFACC). Components included in this document/program element are Command & Control Information Processing System (C2IPS), Contingency Theater Automated Planning System (CTAPS), and Wing Command & Control System (WCCS). This program is Budget Activity 7, Operational TBM C41 standards. Acquisition of these systems will allow the execution of TBM planning, intelligence, and operational functions of the Joint Force Air Systems Development; and is a Post Milestone III effort.

(U) Acquisition Strategy:

competitively selected and is performing the actual TBMCS software integration and, when directed by the government, develop individual applications consistent Electronic Systems Center, Hanscom AFB, MA will manage the overall TBMCS program (CTAPS/WCCS) and C2IPS program. Loral C2 Systems was with the TBM Architecture. C2IPS efforts will continue under the current prime contractor, Computer Sciences Corporation (CSC).

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION SH	EET (R-)	2 Exhib	E)	DATE		March 1996	
BUDGET ACTIVITY 7 - Operational System Development	PE NUN 0207	PE NUMBER AND TITLE 0207438F Thea	רוב Ieater Ba	PE NUMBER AND TITLE 0207438F Theater Battle Management(TBM) C4I	ment(T	BM) C4I		
(U) B. Program Change Summary (\$\sqrt{s}\$ in Thousands)				Total				
<u>F</u>	떠	. "	FY 1997 25,748	Cost				
nming*	(860) (1,0) (614) (617) (7)	(1,036) (634) (299)						
 (U) Adjustments to Budget Years Since FY96 PB a. Program Increase b. Non-Pay Inflation Reduction (U) Current Budget Submit/President's Budget 	28,476 27	27,844	6,487 (1,320) 30,915	TBD				····
 (U) Change Summary Explanation: Funding: FY95: Below Threshold Reprogramming (\$7K) for SAF/AQ computer support. FY96: Additional \$311,451 of appropriated amount earmarked for unidentified priorities. FY97: \$1 million added to C2IPS program, a general reduction and TBM fund realignment. 	7K) for SAF/AQ computer support. amount earmarked for unidentified priorities. a general reduction and TBM fund realignment.	r support. identified pri BM fund rea	iorities. Ilignment.					
(U) C. Other Program Funding Summary (\$ in Thousands)						Ę	Total	
(U) Other Procurement (3080)	96 <u>FY 1997</u> 72 48,502 51 10,244	FY 1998 32,432 10,859	FY 1999 23,137 10,961	FY 2000 23,534 2 12,421 1	FY 2001 23,884 15,946	Compl TBD TBD	TBD TBD	
(U) D. Schedule Profile - See Individual Project Schedules			,					
	Page 2 of 18 Pages	8 Pages			Ш	Exhibit R-2		

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE	March 1996
BUDGET ACTIVITY PE NUM	PE NUMBER AND TITLE	
7 - Operational System Development	0207438F Theater Battle Management(TBM) C4I	=
PROJECT NO. AND NAME		
3330 Cmd Control Info Process Sys (C2IPS)*		

	T=	
Total Cost	18,111	mications d software in a treach IPS uts 3 & 4 and area d an gory 7,
Cost to Complete	0	lops commu- esources an a will result capability a g. Incremer sult of a bro orce directe search Cate
FY 2001 Estimate	0	rogram deve S computer 1 cations medi uge handling ud schedulin, rity. As a re stems. Air F
FY 2000 Estimate	0	ion The Command & Control Information Processing System (C2IPS) program develops communicatio echelons of the Air Mobility Command (AMC). The integration of C2IPS computer resources and softw a High Frequency (UHF) satellite networks, and other available communications media will result in a idenstalled in four increments. Increment 1 provides a digital data message handling capability at each ment 2 will build on Increment 1 software to support mission planning and scheduling. Increments 3 & lall Satellite Communications (SATCOM) interfaces and multi-level security. As a result of a broad area or C4I by coordinating and integrating on-going and planned computer systems. Air Force directed an the best features of IPS into a design for a single wing-level C2 system. This is in Research Category 7,
FY 1999 Estimate	0	essing Syster The integra other availab vides a digit port mission aces and mu and planned.
FY 1998 Estimate	0	mation Procond (AMC). Works, and cament 1 provitivate to sup COM) interface on goon-going a gon-going a
FY 1997 Estimate	5,779	ility Comma satellite net ments. Increement 1 sof tions (SATC d integrating
FY 1996 Estimate	5,701	mmand & C he Air Mobi lency (UHF) n four increa vuild on Inci Communica rdinating an
FY 1995 Actual	6,631	ion The Corechelons of the High Frequent installed installed in ment 2 will the lall Satellite to C4I by coort the best feat
COST (\$ In Thousands)	3330 Cmd Control Info Process Sys (C2IPS)*	and information processing hardware and software for all echelons of the Air Mobility Command (AMC). The integration of C2IPS) program develops communications and information processing hardware and software for all echelons of the Air Mobility Command (AMC). The integration of C2IPS computer resources and software with improved High Frequency (HF) equipment, new Ultra High Frequency (UHF) satellite networks, and other available communications media will result in a unified AMC C2 System. The C2IPS will be developed and installed in four increments. Increment 1 provides a digital data message handling capability at each IPS node and implement mission execution monitoring. Increment 2 will build on Increment 1 software to support mission planning and scheduling. Increments 3 & 4 will improve planning and scheduling capabilities and install Satellite Communications (SATCOM) interfaces and multi-level security. As a result of a broad area review, the Chief of Staff initiated improvements to theater C4I by coordinating and integrating on-going and planned computer systems. Air Force directed an incremental development and migration strategy to merge the best features of IPS into a design for a single wing-level C2 system. This is in Research Category 7,

(housands)	Complete Increment 2 software development.	Continue Increment 3 software development.	 Complete Increment 3 Preliminary Design Review (PDR). 	 Complete Increment 3 Critical Design Review (CDR). 	Continue implementation of force and unit level migration strategies.	Initiate Increment 4 software development.	Total
(U) FY 1995 (\$ in Thousands)	- (U) 2,280	- (U) 2,000			- (U) 2,251	– (U) 100	- (U) 6,631

Operational Systems Development and is a Post Milestone III effort.

_	
onsands	
in T	
\$) 966	
FY 1	
9	

Complete Increment 3 software development.	Continue Increment 4 software development.
- (U) 1,667	- (U) 3,648

Continue implementation of force and unit level migration strategies. Total - (U) 386 - (U) 5,701

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FICATION	N SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207438F Thea	PENUMBER AND TITLE 0207438F Theater Battle Management(TBM) C4I	e Managemer	nt(TBM) C41
PROJECT NO. AND NAME 3330 Cmd Control Info Process Sys (C2IPS)*					
(U) FY 1997 (\$ in Thousands) - (U) 800 Complete CDR for Increment 4. - (U) 1,975 Complete Increment 4 software development. - (U) 2,809 Complete force and unit level migration. - (U) 2,17 Complete Operational Test & Evaluation (OT&E) force and unit level migration. - (U) 5,779 Total	on. ion (OT&E) fo	orce and unit lew	d migration.		
(U) B. Program Change Summary (\$ in Thousands)					
				Total	
(U) Appropriated Value	FY 1995 6,631 6,827	FY 1996 5,991	<u>FY 1997</u> 5,051	<u>Cost</u> 17,673	
(U) Adjustments to Appropriated Value a. General Congressional Reductions	(196)	(230)			
c. Omnibus and other Above Threshold Reprogramming d. Below Threshold Reprogramming		(09)			
 (U) Adjustments to Budget Year Since FY96 PB a. FY97 Program Adjustment b. Non-Pay Inflation Reduction (U) Current Budget Submit/President's Budget 	6,631	5,701	975 (247) 5,779	18,111	
(U) Change Summary Explanation: Funding: FY97: \$975 added to C2IPS program and a -\$2 Schedule: N/A Technical: N/A	47,000 for revi	-\$247,000 for revised inflation rates.	Š		
	Page	Page 4 of 18 Pages			Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION	TFICATION SHEET (R-2 Exhibit)	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207438F Theater Battle Management(TBM) C4I	I) C4I
PROJECT NO. AND NAME 3330 Cmd Control Info Process Sys (C2IPS)*	•	
(U) C. Other Program Funding Summary (\$ in Thousands) Prior To FY 1995 (U) Other Procurement, AF, WSC 834070 4,863	FY 1996 FY 1997 FY 1998 FY 1999 FY 2000 Co	To Total Compl Cost 4,863
(U) D. <u>Schedule Profile</u> FY 1995	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
v (TRR) 2C 3valuation		
(DT&E) Complete 2C (U) INC2.0D (U) TRR	X	
	×	
	X	
(U) TRR (U) DT&E	X	
	; ; ×	
(U) FDR (U) TRR (U) DT&E (I) OT&F	×	
	S and will be reconciled in this venue.	
Pa	Page 5 of 18 Pages	Exhibit R-2





RD	T&E B	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TEM JU	STIFICA	FION SHE	EET (R-2	Exhibit)		DATE	March 1996
ВИВОЕТ АСТІИТҮ 7 - Operational System Development	/stem D	evelopmer			PE NUM 0207 .	PE NUMBER AND TITLE 0207438F Thea	E ater Battl	e Manager	PE NUMBER AND TITLE 0207438F Theater Battle Management(TBM) C4I	C41
PROJECT NO. AND NAME 3330 Cmd Control Info Process Sys (C2IPS)*	ofo Proce	ss Sys (C2IP	,(S)*							
(U) A. Project Cost Breakdown (\$ in Thousands)	reakdown	(S in Thousan	<u>ds)</u>							
				FY	FY 1995	FY 1996	FY 1997			
(U) Major Contract(U) Support Contract(U) In-house Contract(U) Total				. •	3,960 1,953 718 6,631	3,040 1,861 800 5,701	3,823 1,565 391 5,779			
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	tion Histo	ry and Planni	ng Informat	tion (\$ in Tho	usands)					
Performing Organizations: Contractor or Government Award	ations: Award or	Performing	Project	Total						
	Obligation Date	Activity EAC	Office EAC	Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations CSC Dec 88	<u>Organizatior</u> Dec 88	<u>ns</u> 67,847	77,077	43,823	4,250	3,040	3,823	0	54,936	
Support and Management Organizations MITRE Contract Oct 94 TEMS Contract In-House Contract	nent Organiz Oct 94	ations		18,685 9,589 4,086	1,471 230 674	1,431 430 800	1,565 0 391	0 0 0	23,152 10,249 5,951	
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	pment anagement ation				43,823 32,360 0	4,250 2,245 0	3,132 2,507 0	3,102 1,956 0	000	54,307 39,068
Total Project				76,183	6,631	5,701	5,779	0	94,294	
					Page 6 of 18 Pages	3 Pages			Exhibit R-2	it R-2
*					•					

RDT&E BUDGET ITEM JUS	EM JUS	TIFICATI	ON SHE	TIFICATION SHEET (R-2 Exhibit)	Exhibit)		DATE	March 1996	9
BUDGET ACTIVITY			PE NUMB	PE NUMBER AND TITLE					
7 - Operational System Development			02074	38F Thea	0207438F Theater Battle Management(TBM) C4I	Managen	nent(TBM)	C4I	
PROJECT NO. AND NAME									
3330 Cmd Control Info Process Sys (C2IPS)*	*(:								
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost

(U) A. Mission Description and Budget Item Justification

TBD

Continuing

7,051

8,458

8,500

11,231

21,634

18,555

18,354

Contingency Theater Auto Plan System

(CTAPS)

4287

systems. The program utilizes an evolutionary acquisition strategy that accommodates changes in user requirements and improvements in commercial technology through (GCCS) common operating environment (COE), ensuring compatibility and commonality among services. This program is in Research Category 7, Operational Systems existing systems, eliminate redundancy, and improve interoperability. FY96 on-going efforts are migrating the current system to Global Command and Control System The Contingency Theater Automated Planning System (CTAPS) program directly supports the Joint Forces Air Component Commander (JFACC) in the planning and execution of the theater air campaign down to the unit level. The system is designed to open systems standards promoting interoperability among USAF, Services, and Allied command and control systems. The air tasking order generation and dissemination capabilities of CTAPS are the standard for all DoD command and control a series of planned incremental software releases. In FY95, this program began implementing force and unit level migration strategies to merge the best features of Development and is a post-milestone III effort.

(U) FY 1995 (\$ in Thousands)

Complete and field CTAPS Version 5.1.	Continue software CTAPS Version 5.2 development.	Initiate TBMCS Version planning process.
U) 1,735	009'9	2,344
<u>-</u> (G)	- (G)	(D) -

Continue Air Support Operations Center (ASOC) software and hardware development. Complete Battleffed Situation Display (BSD) software development. 1,243 1,630 36

(9) -

Systems engineering and support. 4,802

18,354

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Exhibit R-2



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	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207438F Theater Battle Management(TBM) C4I	t(TBM) C4I
PROJECT NO. AND NAME 3330 Cmd Control Info Process Sys (C2IPS)*	cess Sys (C2IPS)*		
(U) FY 1996 (\$ in Thousands) - (U) 3,000 Comple - (U) 5,545 Contin - (U) 2,200 Contin - (U) 2,200 Contin - (U) 2,200 Comple - (U) 2,15 Comple - (U) 7,75 Initiate - (U) 1,320 System - (U) 1,320 System	ete/Field Version 5.2. ue Version planning proce ue development and testin ue ASOC software develop ete Rome Lab developmen ete Rome Lab developmen Air Battle Planning and Air Battle Operations and s engineering and support	iss, design and development for TBMCS Version 1.0, and initiate full Ops g for a Battlefield Situational Awareness capability. I of the Advanced Planning System (Transitioned to I&D Contractor). Architecture modifications to support the new Air Tasking Order (ATO) for execution modifications to support the new ATO format.	/Intel interoperability. ormat.
(U) FY 1997 (\$ in Thousands) – (U) 18,284 Contim – (U) 1,300 Comple – (U) 1,000 Initiate – (U) 1,050 System – (U) 21,634 Total	<u>Isands</u>) Continue version planning process, complete design/development of TBMCS version 1.0, and the full Ops/Intel interoperability. Complete ASOC software development. Initiate software development for TBMCS Version 2. Systems engineering and support. Total	velopment of TBMCS version 1.0, and the full Ops/	Intel interoperability.
	Page 8 c	Page 8 of 18 Pages	Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICATIO	N SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207438F Thea	PE NUMBER AND TITLE 0207438F Theater Battle Management(TBM) C4I	t(TBM) C4I
PROJECT NO. AND NAME 3330 Cmd Control Info Process Sys (C2IPS)*				
(U) B. Program Change Summary (S in Thousands)				
 (U) Previous President's Budget (FY 1997) (U) Appropriated Value a. General Congressional Reductions b. SBIR c. Omnibus and other Above Threshold Reprogramming d. Below Threshold Reprogramming 	FY 1995 18,975 19,538 (577) (600)	FY 1996 15,067 20,067 (675) (634) (203)	FY 1997 17,027	
(U) Adjustinents to budget Tears Since FY90 FB a. Program Realignment b. Non-Pay Inflation Reduction			5,530 (923)	
(U) Current Budget Submit/President's Budget	18,354	18,555	21,634	
(U) Change Summary Explanation: Funding: FY97: General Appropriation realignment. Schedule: None. Technical: None.				
	Pag	Page 9 of 18 Pages		Exhibit R-2





RDT&E BUDGET ITEM JU	SOF WE	TIFICAT	STIFICATION SHEET (R-2 Exhibit)	EET (R-	2 Exhib	it)		DATE March 1996	
BUDGET ACTIVITY 7 - Operational System Development			PE NUN 0207	PE NUMBER AND TITLE 0207438F Thea	⊤∟E neater Ba	ЭТІТІЕ Theater Battle Management(TBM) C4I	gement(TBM) C4I	
PROJECT NO. AND NAME 3330 Cmd Control Info Process Sys (C2IPS)*	•								
(U) C. Other Program Funding Summary (\$ in Thousands)	(housands)			Ē			Ę	- P	
	FY 1995	FY 1996	FY 1997	<u>Total</u> <u>Prior to</u> <u>FY 1995</u>	FY 2000	FY 2001	Compl	Cost	1
Other Procurement, Other Procurement, Other Procurement,	15,717	695 41,011	32,614	22,323	12,882	13,168	TBD	25,490 695 TBD	
(U) Other Procurement, AF, WSC83790A (U) Other Procurement, AF, WSC84590A (U) Other Procurement, AF, WSC86190A (U) Operations and Maintenance, AF, PE27438F	126	72 4,145 14,244	49 8,595	740 8,930	248 9,420	114	TBD TBD	247 TBD TBD	
(U) D. Schedule Profile									
1 (U) Begin TBMCS Source Selection X (U) CTAPS Version 5.1 Release X (U) CTAPS Version 5.2 Release (U) TBMCS Integration & Development Contract Award (U) TBMCS S/W Version 0.1 (U) TBMCS S/W Version 1.0	FY 1995 2 3	4	1 ×	FY 1996 2 3	4 X	FY 1997 2 3	4		
			Page 10 of 18 Pages	18 Pages				Exhibit R-2	

RDT8	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	AM ELE	MENT/F	ROJEC	TCOS	T BRE	AKDOV	WN (R-3)		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	ystem Deve	lopment			PE NUI 020	PE NUMBER AND TITLE 0207438F Thea	, τιτ∟ε Theater	PE NUMBER AND TITLE 0207438F Theater Battle Management(TBM) C4I	nagemen	t(TBM) C	4	
PROJECT NO. AND NAME 4287 Contingency Theater Auto Plan Sys (CTAPS)	E Theater Auto	Plan Sys (C	TAPS)	:								
4287 Contingency Theater Auto Plan Sys (CTAPS)	r Auto Plan Sys (C	TAPS)		18,354	18,555	21,634	11,231	8,500	8,458	7,051	Continuing	TBD
(U) A. Project Cost Breakdown (\$ in Thousands)	reakdown (\$ in	Thousands)										
				FY 1995	<u>895</u>	FY 1996		FY 1997				
	and Developme g	nt		13,	13,643 2,662 710	17,235 380 200		20,584 400				
(U) SPO Support (U) Total				1,	1,339 18,354	740 18,555		650 21,634				
(U) B. Budget Acquisition History and Planning Information	ition History ar	nd Planning L	nformation	n (\$ in Thousands)	(ands)							
Performing Organizations:	ions:											
Contractor or Government Performing Activity	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office <u>EAC</u>	Total Prior to FY 1995	щ	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>		
Product Development Organizations	rganizations											
LORAL C2 Systems SAIC (S/W INTEG)	Oct 95 Mar 94	N/A N/A	N/A N/A	0 1,900	0 00	1,169 9,185	3,000	19,285 0	Cont	31,200	0	
(Hampton VA) SAIC (ASOC/BSD)	Feb 94	N/A	N/A	1,828	28	1,931	1,800	1,300	0	6,859	. 6	
(Hampton VA/Anchorage AK)		:										
(St Paul MN)	Mar 94	N/A	N/A	1,007	07	200	0	0	0	1,207	7	
INEL (ASOC) (Idaho Falls, ID)	Oct 94	N/A	N/A		0	1,243	006	0	0	2,143	m	
				F	Page 11 of 18 Pages	18 Pages		•		Exhibit R-3	ကု	-
					000,							





RDT&E P	ROGR	PROGRAM ELEMENT	MENT/P	/PROJECT (COST BREAKDOWN (R-3)	AKDOV	VN (R-3)		DATE March 1996	966
BUDGET ACTIVITY 7 - Operational System Development	em Deve	lopment			PE NUMBER AND TITLE 0207438F Theater Battle Management(TBM) C4I	וס דודנם Theater	Battle Mai	nagement	(TBM) C4I	
PROJECT NO. AND NAME 4287 Contingency Theater Auto Plan Sys (CTAPS)	ater Auto F	lan Sys (CT	APS)							
Contractor or Av Government Ot Performing Activity Ds	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to <u>FY 1995</u>	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Miscellaneous Va	Various	N/A	N/A	410	Unk	775	Unk	Unk	TBD	
Support and Management Organizations MITRE Oct 94 TEMS Various Misc Contracts Various	Organizations Oct 94 Various Various	⊗		2,72 8 720 930	2,509 710 1,407	380 200 740	400	Cont Cont Cont	TBD TBD TBD	
Test and Evaluation Organizations Not Applicable	zations									······································
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	ent gement n		5,145 4,378 0	15 13,728 78 4,626 0 0	28 17,235 26 1,320 0 0	20,584 1,050 0	Cont Cont 0	TBD TBD 0	0.00	
Total Project			9,523	18,354	54 18,555	21,634	Cont	TBD		
				Pag	Page 12 of 18 Pages	S			Exhibit R-3	

March 1996 0207438F Theater Battle Management(TBM) C4I DATE RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 4287 Contingency Theater Auto Plan Sys (CTAPS) 7 - Operational System Development PROJECT NO. AND NAME BUDGET ACTIVITY

TBD Continuing 4,082 4,026 3,911 3,749 3,502 3,588 3,491 4288 Wing C2 System (WCCS)

Total Cost

Cost to Complete

FY 2001 Estimate

FY 2000 Estimate

FY 1999 Estimate

FY 1998 Estimate

FY 1997 Estimate

FY 1996 Estimate

FY 1995 Actual

COST (\$ In Thousands)

commercially available hardware and system software. Wing commanders require an accurate, composite picture of their wing's total resources to effectively command, (U) A. Mission Description and Budget Item Justification: This program includes development of mission critical application software for WCCS operating on

commander in near real-time. Today, this information is relayed over secure and unsecured telephones, radios, and other communications devices, as well as by runners to update multi-user status displays (grease boards) or hand written logs. These techniques, which have not changed substantially since World War II, are cumbersome, error prone, may compromise sensitive information, and involve duplication of effort. Disparate efforts have led to the proliferation of stovepipe systems which inherently do mission execution and reporting process by exchanging critical command and control and intelligence information with functional counterparts located throughout the not provide interoperability and do not adequately meet the needs of today's air operations. The WCCS program will design, develop and implement an automated, development costs. Key functional areas (operations, maintenance, mission planning, intelligence, weather, etc.) use WCCS to support the wing commander in the control, and manage their forces in support of their combat sortie generation and reporting responsibilities. The introduction of increasingly sophisticated weapon standard wing level C2 system that will be tailored to meet unique MAJCOM and wing requirements, in order to provide interoperability and reduce training and systems, with their need for and ability to produce large amounts of data, require an automated C2 system to bring meaningful, consolidated information to the wing. This is in Research Category 7, Operational Systems Development. This program is a post Milestone III effort.

(U) FY 1995 (\$ in Thousands)

Complete software development for WCCS Version 1.1.

- Enhance graphic user interfaces.
- Continue to update unit/force level interfaces,
 - Update Databases.
- Technical upgrades (Oracle 7, Ovation).
- Release & Deploy WCCS Version 1.1.

On-line help capability.

- Enhance system security.
- Begin Force/Unit level migration.
- Begin software development budgeted for TBMCS Version 1.0.
- Systems engineering and support. - (U) 1,441
- (U) 3,491

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DATE March 1996	nt(TBM) C4I			ted Weather Distribution System B).	Exhibit R-2
RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	BUDGET ACTIVITY 7 - Operational System Development 7 - Operational System Development	PROJECT NO. AND NAME 4287 Contingency Theater Auto Plan Sys (CTAPS)	(U) FY 1996 (\$\frac{\psi}{\psi} \text{in Thousands}) - (U) 2,577 Initiate Version planning process, design and development for TBMCS Version 1.0. - (U) Continue graphical user interface standardization. - (U) Continue Decision Support System (DSS) Module. - (U) Initiate Scheduler. - (U) Continue first phase of security enhancement implementation. - (U) Continue unit/force level integration. - (U) 3,588 Total	(U) EY 1997 (\$ in Thousands) - (U) 2,442 Complete design/development of TBMCS version 1.0. - (U) Complete Scheduler. - (U) Phase II Decision Support System (DDS) Module. - (U) Phase II Decision Support System (DDS) Module. - (U) Continue first phase of security enhancement implementation. - (U) Include/modify unit/force level interfaces (Air Force Mission Support System (AFMSS), Automated Weather Distribution System (AWDS), Base Recovery Control System (BRCS), and Combat Ammunition System-Base (CAS-B). - (U) Plase II Decision System (BRCS), and Combat Ammunition System-Base (CAS-B). - (U) Plase II Decision System (BRCS), and Combat Ammunition System (AFMSS), Automated Weather Distribution System (AWDS), Base Recovery Control System (BRCS), and Combat Ammunition System-Base (CAS-B). - (U) Soo Initiate TBMCS software Version 2.0 development. - (U) 560 Systems engineering and support. - (U) 3,502 Total	Page 14 of 18 Pages

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SUL ME	TIFICAT	ION SH	EET (R	-2 Exhit	ję:		DATE March 1996	
BUDGET ACTIVITY 7 - Operational System Development			PE NU 020	PE NUMBER AND TITLE 0207438F Thea	⊤∟E neater Ba	ttle Man	agement	PE NUMBER AND TITLE 0207438F Theater Battle Management(TBM) C4I	
PROJECT NO. AND NAME 4287 Contingency Theater Auto Plan Sys (CTAPS)	TAPS)								
(U) B. Program Change Summary (\$ in Thousands)	ds)								
(U) Previous President's Budget (FY 1996) (U) Appropriated Value		FY 1995 3,491 3,592		FY 1996 3,755 3,755	FY 1997 3,670		,		
(c) Adjustments to Appropriated Value a. General Congressional Reductions b. SBIR		(101)		(131)					
	uing			(36)			-		
a. General FY97 Reduction b. Non-Pay Inflation Reduction					(18)				
(U) Current Budget Submit/President's Budget		3,491		3,588	3,502				
 (U) Change Summary Explanation: Funding: FY96: Amount does not include an additional FY97: General reduction in FY97 A-POM. Schedule: N/A Technical: N/A 	n additiona ' A-POM.		xion earmaı	\$39K reduction earmarked for unidentified priorities.	entified pric	rities.			
(U) C. Other Program Funding Summary (\$ in Thousands)	housands)								
	FY 1995	FY 1996	FY 1997	Total Prior to FY 1995	FY 2000	FY 2001	To Compl	Total <u>Cost</u>	
(U) Other Procurement AF, WSC837100 (U) Other Procurement AF, WSC834070	15,719	10,474	15,352	6)369	10,404	10,602	Cont	21,356 Cont	
		7	Page 15 of 18 Pages	8 Pages				Exhibit R-2	





DATE March 1996	Theater Battle Management(TBM) C4I		Total Cost	t Cont			Exhibit R-2
	emei		To Compl	Cont		4	
oit)	attle Manag		FY 2001	1,465		FY 1997 2 3	
-2 Exhib	псе heater B		FY 2000	1,673		4 	
EET (R	PE NUMBER AND TITLE 0207438F Thea		Total Prior to FY 1995	1,466		FY 1996 2 3	18 Pages
ION SH	PE NUN 0207		FY 1997	1,478		1 日 2	Page 16 of 18 Pages
IIFICAT			FY 1996	1,775		4 % % %	
SUL M		TAPS)	FY 1995	20,302		FY 1995	
TE	nent	Sys (C				- ×	
RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	BUDGET ACTIVITY 7 - Operational System Development	PROJECT NO. AND NAME 4287 Contingency Theater Auto Plan Sys (CTAPS)		(U) Other Procurement AF, WSC86190A(U) Operations and Maintenance, AF	(U) D. Schedule Profile	(U) Software release Version 1.1 (U) Deployment Version 1.1 (U) Begin TBMCS Source Selection (U) TBMCS Integration & Development Contract Award (U) TBMCS S/W Version 1 (U) Version 1 Release (U) Version 1 OT&E (U) TBMCS S/W Version 2	

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	RAM EI	LEMENT	PROJEC	TCOST	BREAK) NMOQ	R-3)	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	relopme	nt		PE NUM 0207	PE NUMBER AND TITLE 0207438F The 3	E ater Battl	e Manage	PE NUMBER AND TITLE 0207438F Theater Battle Management(TBM) C4I	C4I	
PROJECT NO. AND NAME 4288 Wing C2 System (WCCS)							:			
4288 Wing C2 System (WCCS)			3,491	3,588	3,502	3,749	3,911	4,026 4,082	82 Continuing	TBD
(U) A. Project Cost Breakdown (\$ in Thousands)	in Thousar	(spu	FV 1995	995	FY 1996	FV 1997				
(U) System Integration and Development(U) System Engineering(U) TEMS(U) SPO Support	nent		2	2,050 750 0 691	2,577 344 220 447	2,942 400 0 160				
(U) Total			E	3,491	3,588	3,502				
(U) B. Budget Acquisition History and Planning Information (S in Thousands)	and Plann	ing Informati	on (\$ in Thou	sands)						
Performing Organizations:										
Contractor or Government Award or Perfo Performing Obligation Active Activity Date EAC	rming ity	Project Office EAC	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>		
Product Development Organizations SAIC Jan 94 Loral C2 Systems Oct 95	N/A N/A	N/A N/A	3,000	2,000	2,577	2,942	Cont	5,000 TBD		
Support and Management Organizations MITRE Oct 94 N Miscellaneous Various N	ons N/A N/A	N/A N/A		750 591	344	400 135	Cont	TBD		
			1	Page 17 of 18 Pages	Pages	·		Exhibit R-3	R-3	





RDT&E PROGRAM ELEMENT/	RAM ELE	MENT/PF	PROJECT C	COST BREAKDOWN (R-3)	EAKDOV	VN (R-3)		DATE March 1996	
BUDGET ACTIVITY 7 - Operational System Development	velopment			PE NUMBER AND TITLE 0207438F Thea	ир тіт∟е Theater	Battle Ma	דודוב Theater Battle Management(TBM) C4I	TBM) C4I	
PROJECT NO. AND NAME 4288 Wing C2 System (WCCS)									
Government Furnished Property: Not Applicable.	Not Applicable								
Contractor or Government Award or Performing Activity Obligation Date	Performi ng Activity EAC	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Production Development Property Local Purchase Various Orders*			28	100	25	25	Cont	TBD	
Test and Evaluation Organizations Not Applicable									
*Various small contracts/delivery orders based on requirements Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	lers based on re	quirements. 3,028	2,050	2,577	2,942	Cont	TBD TBD		
Total Project		3,028	3,491	3,588	3,502	Cont	TBD		

			Page	Page 18 of 18 Pages	SS			Exhibit R-3	

RDT&E BUDGET ITEM JUSTIFICATION	JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0207590F Seek Eagle	

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	15,449	16,394	15,469	16,102	19,353	20,115	20,905	Continuing	TBD
2784 Armament Standardization/Control/Munitions Material Handling Equipment	0	1,152	1,181	1,154	1,208	1,242	1,272 0	Continuing	TBD
4037 SEEK EAGLE Certification	15,449	15,242	14,288	14,948	18,145	18,873	19,633	Continuing	ТВD

(U) A. Mission Description and Budget Item Justification

The Air Force has a variety of combat aircraft and numerous stores (munitions, missiles, fuel tanks, electronic countermeasures pods, etc.). Aircraft carry these stores Orders (TO's) are developed through the Combat Stores Loading Software (CSLS) and Combat Weapons Delivery Software (CWDS). The Air Force SEEK EAGLE program completes these certifications through any combination of ground and flight testing, wind tunnel testing, and engineering analysis. Over 700 aircraft-store tactics change, and as new aircraft and stores are developed. Before operational use, the Air Force must certify these configurations for safe loading, carriage, and EAGLE program is also responsible for insertion of new and emerging technologies into the SEEK EAGLE process and providing resources for sustainment of a combinations exist to be certified, with new ones added on a regular basis. Depending upon the complexity, certification takes from months to years. The SEEK viable Air Force aircraft-store certification capability. The Armament Standardization/Control/Munitions Material Handling Equipment (MMHE), Project 2784, (Funding for Project 2784 for FY96 and beyond was transferred to SEEK EAGLE from PE 64602F, Armament/Ordnance Development.) The RDT&E Research separation (jettison and normal release), and must verify ballistics accuracy under the user-certified carriage and employment parameters. Electronic Technical in countless different loading combinations determined by operational scenarios, missions, and tactics. Loading configurations change as operational plans and satisfies several USAF and Tri-service requirements for standardization of armament and support equipment and eliminates unnecessary duplication of MMHE. Category/Budget Activity is Operational Systems Development because the PE supports fielded systems.

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xhibit R-2





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHE	ET (R-2 Exhi	bit)	DATE Mar	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMB 02075	PE NUMBER AND TITLE 0207590F Seek Eagle	le		
(I) R Drogram Change Summary (S in Thousands)			Total		
H Consideration of the state of	띠	[II.]	Cost		
(U) Previous President's Budget 15,982 (U) Appropriated Value 15,982	82 17,390 82 17,390	0 18,059 0	IBD		
(U) Adjustments to Appropriated Value a. Cong Gen Reductions	-174 -34	0			
b. SBIR	34 -296	9			
c. Omnibus or Other Above 1 meshold Keprogram d. Below Threshold Reprogramming	-25				
(U) Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/President's Budget 15,449	49 16,394	-2,590 4 15,469	TBD		
(U) Change Summary Explanation:			,	,	
Funding: FY96 reductions were for SBIR, general Congressional Reductions, support for Bosnia operations, and reprogramming for K-16s for Jordan. FY97 changes resulted from AF general reductions and inflation. Schedulel: N/A Technical: N/A	Reductions, sup	port for Bosnia oper	ations, and reprogramm	ng tor F-16s to	: Jordan. FY9/
~				To	Total
(U) Missile Procurement 1,102 5,874 (U) Procurement of Ammunition, AF 6,251	FY 1997 8,033	FY 1998 FY 1999 10,722 6,927	FY 2000 FY 2001 6,670 7,986	Cont.	Cost TBD
(U) D. Schedule Profile SEEK EAGLE process in accordance with (IAW) established acquisition program milestones. Each aircraft-store configuration requested by the user goes through the SEEK EAGLE process IAW the designated user priority.	ished acquisition	program milestones	. Each aircraft-store cor	tfiguration requ	ested by the user

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March 1996 DATE RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) 0207590F Seek Eagle PE NUMBER AND TITLE 2784 Armament Standardization/Control/Munitions Material Handling Equipment 7 - Operational System Development PROJECT NO. AND NAME BUDGET ACTIVITY

(U) A. Mission Description and Budget Item Justification

TBD **Total Cost** Continuing Cost to Complete 1,272 FY 2001 Estimate 1,242 FY 2000 Estimate 1,208 FY 1999 Estimate 1,154 FY 1998 Estimate 1,181 FY 1997 Estimate 1,152 FY 1996 Estimate 0 FY 1995 Actual Armament Standardization/Control/Munitions Material Handling Equipment COST (\$ In Thousands) 2784

Armament Standardization/Control/Munitions Handling Equipment (MMHE): This continuing project develops and improves the standardization and commonality development of MMHE and armament control systems. Any Procurement will be performed and funded by the applicable weapons system project. (Funding for of improved munitions handling and armament equipment to preclude duplication and proliferation. This project's efforts are limited to the study, design and Project 2784 for FY96 and beyond is transferred to PE 27590F, SEEK EAGLE from PE 64602F, Armament/Ordnance Development.)

(U) FY 1995 (\$ in Thousands):

- FY95 funding and plans located in PE 64602F, Armament/Ordnance Development

(U) FY 1996 (\$ in Thousands):

Cross-load Adapter, GBU Fin Rack, B-1 Nuclear Ram Assembly, and completing testing of the B-1B Preloading Adapter, F-22 Pylon Adapter, Initiate/continue/complete design/development of various MMHE projects, including completing design of the B-2 Bomb Rack Assembly and T-Bar Adapter. 252 **(C)**

Continue design and manufacture of the Robotic Advanced Technology Demonstrator

(U) \$ 150 Continue the design of MHU-110 Trailer Upgrades

Continue design/prototype B-1/B-52/B-2 Rotary Launcher Load Adapter and B-52H Pylon Load Adapter 250 3

(U) \$ 1,152 Tota

(U) FY 1997 (\$ in Thousands):

245

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (F	(-2 Exhibit)	DA	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207590F Seek Eagle	тіт <u>г</u> Seek Eagle		
PROJECT NO. AND NAME 2784 Armament Standardization/Control/Munitions Material Handling Equipment	y Equipment			
— (U) \$ 481 Initiate/continue/complete design/development of various MMHE projects, including new development technology, Locally Manufactured Munitions Equipment (LMME), and completing design of the Rocket and Computer Control Group (CCG) Modules, 40-Foot Trailer Trolleys, Flare Rack, B-52 Air Launched Cruise Missile (ALCM) Pylon Adapter, and testing GBU Fin Rack, B-1 Nuclear Ram Assembly, and 40-Foot Trailer Rails.	us MMHE project 1 of the Rocket an) Pylon Adapter, 3	s, including new of Computer Controlling testing GBU F	evelopment technolog of Group (CCG) Mod- in Rack, B-1 Nuclear	y, Locally Manufactured ules, 40-Foot Trailer Trolleys, Ram Assembly, and 40-Foot
 (U) \$ 150 Complete design/prototype MHU-110 Trailer upgrades (U) \$ 500 Complete construction and initiate evaluation of the Robotic Advanced Technology Demonstrator (ATD) (U) \$ 50 Complete testing of B-1/B-52/B-2 Rotary Launcher Load Adapter (U) \$ 1.181 Total 	botic Advanced T nd Adapter	echnology Demon	strator (ATD)	
(U) B. Program Change Summary (\$\sin \text{Thousands}\) FY 1995	FY 1996	FY 1997	Total Cost	
(U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR	1,175 1,175 -23	1,187	Cont.	
c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/President's Budget	1,152	-6 1,181	Cont.	
 (U) Change Summary Explanation: Funding: FY96 reductions were for general Congressional Reductions. FY97 change was from inflation adjustment. Schedule: N/A Technical: N/A 	Y97 change was	from inflation adju	stment.	
 (U) C. Other Program Funding Summary (\$\sigma\$ in Thousands) Related Activities: These is no other unnecessary duplication of effort within the Air Force or Department of Defense. (U) D. <u>Schedule Profile</u>: Not Applicable 	Air Force or Dep	artment of Defens	o i	

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RDT&E PROGRAM ELEMENT/PROJEC	ROJECT COST BREAKDOWN (R-3)	(DOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207590F Seek	ΣΤΙΤ∟Ε Seek Eagle	
PROJECT NO. AND NAME 2784 Armament Standardization/Control/Munitions Material Handling Equipment	dling Equipment		
(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u>	FY 1995 FY 1996	<u>FY 1997</u>	
(U) Various MMHE Projects(U) Robitics ATD(U) MHU-110 Trailer Upgrade(U) Rotary Launcher/Pylon Loading Adapters	N/A 252 N/A 500 N/A 150 N/A 250	481 500 150 50	
(U) Total	N/A 1,152	1,181	
NOTE: Projected costs for items listed as N/A in 1995 above can be found in PE 64602F, Armament/Ordnance Development	n PE 64602F, Armament/C	Ordnance Development	Exhibit R.3
	1347		
	UNCLESIFIED		



RDT&E	E PROG	PROGRAM ELEMENT		PROJECT	COST BI	REAKDC	COST BREAKDOWN (R-3)	∞	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	ystem De	velopment			PE NUMBER AND TITLE 0207590F Seek	AND TITLE OF Seek Eagle	≣agle				
PROJECT NO. AND NAME 2784 Armament Standardization/Control/Munitions Material Handling Equipment	andardizatic	າກ/Control/M≀	unitions Mat	erial Handlin	g Equipme						
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	sition Histor	y and Planning	<u>r</u> Information	(\$ in Thousan	ds						
Performing Organizations: Contractor or Contrac Government Method Performing or Fund Activity Vehicle	zations: Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
bmen	tt Organizations T&M	Sep 93	830	880	N/A	N/A	0	0	0	0	
Warfare Center Dept of Energy/NASA	T&M	Mar 94	096	880	N/A	N/A	200	200	Continuing	TBD	
Support and Management Organizations TEAS/TEAMS CP Oct AFDTC/FM CP Oct 646SUPS/LGS CP Con	lent Organizat P P P	tions Oct 93 Oct 93 Cont	Continuing Continuing Continuing	Continuing Continuing Continuing	N/A N/A N/A	Z Z Z Z Z Z Z Z Z	377 130 13	400 130 13	Continuing Continuing	TBD	
WL/MN CP Other CP	6 , 6.	Cont Oct 93	Continuing Continuing	Continuing Continuing	N/A N/A	N/A N/A	100	100	Continuing	TBD	
Test and Evaluation Organizations 46th Test Wing	rganizations	;	Continuing	Continuing	N/A	N/A	20	20	Continuing	TBD	
Government Furnished Property: Not Applicable Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	ed Property: lopment Management uation	Not Applicabl	u	·	N/A N/A N/A	500 632 20	500 661 20				
Total Project					N/A	1,152	1,181	Continuing	TBD		
				Pa	Page 6 of 11 Pages	ges			Exhibit R-3	2-3	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION S	HEET (R	-2 Exhil	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development		PE NI 020	PE NUMBER AND TITLE 0207590F Seek	DTITLE Seek Eagle	6				
PROJECT NO. AND NAME 4037 SEEK EAGLE Certification									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
4037 SEEK EAGLE Certification	15,449	15,242	14,288	14,948	18,145	18,873	19,633	Continuing	TBD
Air Force aircraft carry a variety of combat stores (munitions, missiles, fuel tanks, electronic countermeasures, pods, etc.) in countless different loading combinations determined by operational sensions, missions, and teaches, and the stores and determined by operational use, the Art Force must certify these configurations can be abeed on operational plans and as new aircraft and stores and developed. Before operational use, the Art Force must certify these configurations can be adding, arriage, and separation (jettison and mornal release), and must verify ballistics accuracy under the user-specified carriage and employment parameters. The SEEK BAGLE program completes these certifications through any combination of ground and flight testing, wind tumol testing, and engineering analysis. More than 700 interaction annot systems being tested. The SEEK EAGLE program is also responsible for insertion of new and emerging technologies into the SEEK EAGLE process and providing resources to sustain a viable Air Force straffshore certification capability. (U) FY 1995 (S. in Thousands): (U) \$ 2,679 Complete certification of conventional weapons on bomber aircraft, including the CBU-87/89/97 on the B-IB (U) \$ 2,679 Complete certification of conventional weapons on bomber aircraft, including beginning F-16 C/D Block 50/52D and AGM-88B/C (4 HARA)) (U) \$ 9,918 Initiate/continue/complete aircraft-stores certification on fighter aircraft, including beginning F-16 C/D Block 50/52D and AGM-88B/C (4 HARA) (U) \$ 1,518 Maintain SEEK EAGLE Engineering Analysis Capability (U) \$ 1,518 Maintain SEEK EAGLE Engineering Analysis Capability (U) \$ 1,518 Maintain SEEK EAGLE Engineering Analysis Capability	ons, missiles, Loading co tify these cor and employr ing, and engi ths to years in al weapons o al weapons o ores certifica ores certifica g Analysis C	fuel tanks, enfigurations rigurations nent parame neering ana to complete technologie technologie ain bomber ai apability	electronic co change bass for safe load ters. The SI lysis. More because of th s into the SE LS) and stan ter aircraft, i	untermeasured on operations, carriage EEK EAGLE than 700 air ne diversity a SEK EAGLE affing the CBU ncluding beg	es, pods, etc ional plans s s, and separa E program c craft-store c and interacti process and uration load uration load ginning F-16	tion (jettiso, and tactics, and tactics, and tactics, and then (jettiso ompletes the onfiguration on among sylproviding) and the B-1B on the B-1B on the B-1B on the B-1B.	ss different as new a n and norma se certificati secrificati sexist to be stems being resources to the Air Forc	loading comt ircraft and st il release), an ions through certified, wii tested. The sustain a vial AGM-88B/(ores are and must any th new SEEK ble Air SE(4
		Page / of 11 Pages	l I Pages				EXhibit K-2	7-	



RDT&E BUDGET ITEM JUST	IFICATION	N SHEET (STIFICATION SHEET (R-2 Exhibit)	DATE March 1996	
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207590F Seek	ΣΤΙΤ∟Ε Seek Eagle		
PROJECT NO. AND NAME 4037 SEEK EAGLE Certification					
 (U) FY 1996 (\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\	Block 50/52D and AGM-88 B/leling capability using Applied irreraft-store certification on figurarious automated Technical Org Software (CSLS) D/E, F-16 and AMRAAM P31.	Block 50/52D and AGM-88 B/C (4 HARM) leling capability using Applied Computation ircraft-store certification on fighter and bow various automated Technical Orders/missior g Software (CSLS) D/E, F-16 and AMRAAM P31.	HARM) putational Fluid Dyna and bomber aircraft /mission planning tool	Block 50/52D and AGM-88 B/C (4 HARM) leling capability using Applied Computational Fluid Dynamics (ACFD). ircraft-store certification on fighter and bomber aircraft various automated Technical Orders/mission planning tools using Combat Weapons Delivery Software g Software (CSLS) D/E, F-16 and AMRAAM P31.	
 (U) <u>FY 1997 (\$ in Thousands)</u>: (U) \$231 Initiate/design/develop F-22 models to use for follow-on certification (U) \$ 1,157 Continue/complete aircraft load/separation prediction capability using Applied Computational Fluid Dynamics (ACFD) (U) \$ 10,600 Initiate/continue/complete aircraft-store certification on fighter and bomber aircraft (U) \$ 2,300 Initiate/continue/develop/complete various automated Technical Orders/mission planning tools using CWDS and CSLS (U) \$ 14,288 Total 	use for follow-or ion prediction c certification or ous automated T	n certification apability using A fighter and bon Technical Orders	Applied Computationa nber aircraft /mission planning too	1 Fluid Dynamics (ACFD) 1s using CWDS and CSLS	
(U) B. Program Change Summary (\$ in Thousands)				Total	
	FY 1995 15,982 15,982	FY 1996 16,215 16,215	FY 1997 16,872	Cost	
(U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR	-174	-317			
	-25 -334	-360	o v		
(U) Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/President's Budget	15,449	15,242	-2,548 14,288	TBD	
(U) B. Program Change Summary (\$ in Thousands (continued)				: ::	
	Pag	Page 8 of 11 Pages		Exhibit R-2	

RDT&E BUDGET ITEM JI	M JUST	IFICAT	ION SH	USTIFICATION SHEET (R-2 Exhibit)	2 Exhib	jt)		DATE Mar	March 1996
BUDGET ACTIVITY 7 - Operational System Development			PE NUN 0207	PE NUMBER AND TITLE 0207590F Seek	Seek Eagle	0			
PROJECT NO. AND NAME 4037 SEEK EAGLE Certification									
(U) Change Summary Explanation: Funding: FY96 reductions were for SBIR, general Congressional Reductions, support for Bosnia oper reductions result from general AF reductions and testing requirements for fighter and bomber aircraft. Schedule: N/A Technical: N/A	neral Congrand testing 1	essional Re	ductions, su s for fighter	pport for Bo	snia operati r aircraft.	ons, and rep	rogramming	Congressional Reductions, support for Bosnia operations, and reprogramming for F-16s to Jordan. FY97 sting requirements for fighter and bomber aircraft.	ordan. FY97
n Funding Summary (S in Th	195	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	To	Total Cost
(U) Other Procurement (U) Missile Procurement (I) Procurement of AF Ammunition	1,102	5,874	8,033	10,722	6,927	6,670	7,986	Continuing	TBD
(Note: Procurement of Combined Effects Munitions and Gator Cluster Bomb Units submunitions was accelerated into FY95 and FY96 from FY97 to coincide with the termination of manufacturing capability.)	and Gator C	luster Bomł	Units subn	nunitions wa	us accelerate	d into FY95	and FY961	rom FY97 to c	oincide with the
(U) D. Schedule Profile SEEK EAGLE program does not execute in accordance with (IAW) established acquisition program milestones. Each aircraft-store configuration requested by the user goes through the SEEK EAGLE process IAW the designated user priority.	ce with (IAW	V) establish priority.	ed acquisitic	on program	milestones.	Each aircra	ft-store conf	iguration reque	sted by the user
		*EX.							

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RDT&E PROGRAM ELEMENT/PROJECT	CT COST BRE	COST BREAKDOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207590F Seek	эттге Seek Eagle	
PROJECT NO. AND NAME 4037 SEEK EAGLE Certification			
(U) A. Project Cost Breakdown (\$ in Thousands)			
FY	FY 1995 FY 1996	<u>5</u> <u>FY 1997</u>	
(U) Process Sustainment	1,082 1,100	0 1,050	
 (U) Wind Tunnel Testing (U) Other - Ballistic/ Safe Escape Analysis - Tech Order/P.C. Floopy Disk 	2,150 2,142 2,885 3,224	2 2,019 4 2,285	
- Loading Process Development/Verification			
(U) Mission Support (U) Total	1,921 1,573 15,449 15,242	3 1,621 2 14,288	
(Note: FY96/97 Engineering Analysis increased due to historical unscheduled flight clearance requirements and the use of new technology insertion tools.) (Note: FY96/97 Reduction in mission support is due to streamlining efforts.)	led flight clearance rec s.)	quirements and the use of new te	echnology insertion tools.)
	Page 10 of 11 Pages		Exhibit R-3

RDT&E PROGRAM ELEMENT/P	3RAM ELE	MENT/P	ROJECT COST BREAKDOWN (R-3)	COSTB	REAKDO	JWN (R-:	3)	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	evelopment			PE NUMBER AND TITLE 0207590F Seek	RAND TITLE OF Seek Eagle	Eagle			
PROJECT NO. AND NAME 4037 SEEK EAGLE Certification	on								
(U) B. Budget Acquisition History and Planning Information	ry and Planning	Information	(\$ in Thousands)	(Spi					
Performing Organizations:									
Contractor or Contract Government Method/Type Performing or Funding Activity	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office EAC	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Product Development Organizations	ω į						-		
Support and Management Organizations Mission Support PO Con	<u>itions</u> Continuous		Continuous	4,173	1,921	1,618	1,621	Continuing	9,333
Test and Evaluation Organizations 46th Test Wing PO	Continuous Continuous Continuous		Continuous Continuous Continuous	55,637 6,900 20,617	5,461 2,041 6,026	5,725 2,192 5,707	5,429 2,219 5,019	Continuing Continuing Continuing	72,252 13,352 37,369
Government Furnished Property:	Not Applicable	ø)							
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation				4,173 83,154	1,921 13,528	1,618 13,624	1,621		9,333 122,973
Total Project				87,327	15,449	15,242	14,288		132,306
			Pag	Page 11 of 11 Pages	ges			Exhibit R-3	7-3





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ISTIFICA	TION SI	HEET (R	2-2 Exhil	oit)		DATE M	March 1996	9
вирсет астіміту 7 - Operational System Development		PE NU 020	PE NUMBER AND TITLE 0207601F USA	D TITLE USAF Wargaming and Simulation	gaming	and Sim	lation		
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	14,656	18,794	19,361	23,493	21,088	23,863	23,596	Continuing	Continuing
1008 National Air and Space Warfare Model (NASM)	14,656	6,298	17,323	14,137	10,212	11,197	9,792	Continuing	Continuing
1011 Joint Modeling & Simulation Integration Program (JMSIP)	0	0	2,038	4,051	5,414	7,047	8,037	Continuing	Continuing
2888 Theater Air Command & Control Sim Facility (TACCSF)	0	0	0	5,305	5,462	5,619	5,767	Continuing	Continuing
4474 Theater Air Defense Battle Management C4I (TAD BMC4I)	0	12,496	0	0	0	0	0	0	0
(U) A. Mission Description and Budget Item Justification Initiated in FY 94, this program is in budget activity 7 - Operational System Development, because it provides RDT&E funding for Air Force and Joint vargaming architecture and model development, primarily in support of battlestaff training, education, and military operations. It also funds TAD BMC4I which fuses and expands on existing capabilities to support the theater CINCs. TAD BMC4I will move to new PE 65704F project 1010 in FY 96. See individual R-2s for detailed year-by-year justification.	n 7 - Operationa rily in support es theater CINCs n.	il System De of battlestaff s. TAD BM	evelopment, training, ed C4I will mo	 Operational System Development, because it provides RDT&E funding for Air Force and Joint in support of battlestaff training, education, and military operations. It also funds TAD BMC41 leater CINCs. TAD BMC4I will move to new PE 65704F project 1010 in FY 96. 	ovides RDTa military ope , 65704F pro	&E funding rations. It : ject 1010 ir	for Air Forc also funds T. FY 96.	e and Joint AD BMC4I v	which
(U) B. Program Change Summary (\$ in Thousands)					Ę-	3			
(U) Previous President's Budget (FY 96)(U) Appropriated Value(U) Adjustments to Appropriated Value	FY 1995 13,306 14,110	[I -	FY 199 <u>6</u> 19,762 19,762	FY 1997 25,624	Lotal Cost Continuing	Cost Cost nuing			
 a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming f.) Adjustments to Budget Years Since FY 1996 PB 	-517 -287 1,350	7. 0.	-501 -312 -155	-6.263					
	14,656		18,794	19,361	Continuing	Bu			
		Page I of 10 Pages	10 Pages				Exhibit R-2	2-2	
		1354	4						

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

BUDGET ACTIVITY

PE NUMBER AND TITLE

March 1996

DATE

7 - Operational System Development

0207601F USAF Wargaming and Simulation

(U) Change Summary Explanation:

Funding: FY 97: \$19.062M reprogrammed from TAD BMC4I project 4744 into PE 65704 project 1010. See individual R-2s for project details.

See individual R-2s attached Schedule: See individual R-2s attached Technical:

(U) C. Other Program Funding Summary (\$ in Thousands)

Einsiedlerhof AS, Germany; the Air Force Wargaming Institute, Maxwell AFB, AL, the USAF Battlestaff Training School (BLUE FLAG), Hurlburt Field, FL, and the simulation resources while ensuring developmental activities are responsive to evolving Air Force, Joint, and DoD Modeling and Simulation (M&S) requirements and The PE also includes O&M and Procurement funding for the operation of four Air Force wargaming and simulation centers -- the Warrior Preparation Center (WPC), Theater Battle Arena (TBA), The Pentagon, DC. By centralizing O&M and Procurement funding, the Air Force more efficiently manages existing wargaming and capabilities.

								I.o	Total
Appropriation	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	Compl	Cost
(U) O&M (AF 3400)	18,783	32,791	31,129	30,974	33,924	36,891	40,561	Contin	Contin
(U) Other Procurement, Air Force 834010 ADPE	664	664	663	889	206	722	738	Contin	Contin

(U) D. Schedule Profile

See individual R-2s attached

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RD	RDT&E BUDGET ITEM JUS	STIFICA	FION SF	HEET (R	TIFICATION SHEET (R-2 Exhibit)	bit)		DATE M	March 1996	90
BUDGET ACTIVITY 7 - Operational Sy	вирсет астіліту 7 - Operational System Development		PE NU 020	PE NUMBER AND TITLE 0207601F USA	IITLE ISAF War	PE NUMBER AND TITLE 0207601F USAF Wargaming and Simulation	and Sim	ulation		
PROJECT NO. AND NAME 1008 National Air and	_	(NASM)								
	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
1008 National Air and Space Warfare Model	ce Warfare Model (NASM)	14,656	6,298	17,323	14,137	10,212	11,197	9,792	Continuing	Continuing
(U) A. Mission Descrip This program pranilitary operations. A ne expand the use and role o and joint efforts. NASM an air combat resolution a battle staffs. Primary use joint exercises involving a	This program provides funds for Air Force and Joint wargaming architecture and model development, primarily in support of battlestaff training, education, and military operations. A new wargaming model, NASM, is being developed to replace the existing Air Force standard Air Warfare Simulation (AWSIM). NASM will expand the use and role of modeling and simulation (M&S) in support of operational and acquisition decision making, and increase the interoperability between Air Force and joint efforts. NASM includes an overall USAF M&S architecture and provides a reusable, portable, scaleable, robust distributed core for other simulations. It includes an air combat resolution model to meet the needs of USAF MAJCOMs and Unified/Specified Command air components to train Air Component Commanders and their battle staffs. Primary users will be the unified command air components, CINCs, JFACCs, and Service components, as supported by BLUE FLAG and WPC for use in joint exercises involving air, ground, and sea campaigns. NASM is the air component portion of the evolving DoD, Joint Staff and Services Joint Simulation System (JSIMS) initiative.	wargaming and geveloped to support of op itecture and positional and positional and formational and the supponents, CI SM is the air c	chitecture an replace the erational am rovides a reu Juified/Spec NCs, JFACC omponent p	nd model der existing Air d acquisitior isable, porta iffed Comm Ss, and Serv ortion of the	velopment, p r Force stand 1 decision ma ble, scaleabla and air compane ice compone	orimarily in a dard Air Wa aking, and in le, robust dis ponents to the ob, as supp od, Joint St.	support of be refare Simule nerease the intributed correain Air Con orted by BL! aff and Servian Servian	attlestaff trai ation (AWSI interoperabil e for other si nponent Con UE FLAG ai	ining, educat M). NASM ity between mulations. nnanders an nd WPC for mulation Sys	tion, and will Air Force It includes td their use in
(U) FY 1995 (\$ in Thousands): - (U) \$1,956 Continue of the co	Thousands): Continue rapid prototyping of M&S architecture elements Continue development of NASM prototypes and operate the program management office Continue to participate in Joint M&S architecture development activities Support the Joint Simulation System (JSIMS) Joint Program Office Continue to Re-engineer the Air Warfare Simulation into the final deliverable system Expand interfaces of M&S systems and real world C3 and C31 systems Develop an "exotic M&S demonstration" as directed by CSAF for the 95 Army-Air Force Warfighter talks Total	S architecture or rototypes and of Sarchitecture in (JSIMS) Joi farfare Simulation and real world attion" as directive.	elements sperate the p cavelopmen nt Program (ion into the 1 C3 and C3 ted by CSAI	orogram mar nt activities Office final deliver I systems F for the 95	nagement off rable system Army-Air Fo	fice orce Warfigl	hter talks			
(U) <u>FY 1996 (\$ in Thousands)</u> : - (U) \$ 598 Begin dev - (U) \$2,200 Begin NA - (U) \$1,500 Continue	Thousands): Begin development of specific air objects to support JSIMS architecture Begin NASM integration effort and operate the program management office Continue to participate in Joint M&S architecture development activities	objects to support of the parts	ects to support JSIMS architecture perate the program management of architecture development activities Page 3 of 10 Pages	rchitecture lagement off nt activities 10 Pages	ice			Exhibit R-2	₹-2	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICATIO	N SHEET (R-2 Exhib	it)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207601F USA	USAF War	PENUMBER AND TITLE 0207601F USAF Wargaming and Simulation	
PROJECT NO. AND NAME 1008 National Air and Space Warfare Model (NASM)	SM)				
 (U) \$1,000 Support and configuration manage the Re-engineered AWSIM (U) \$1,000 Expand interfaces of M&S systems and real world C3 and C3I systems (U) \$6,298 Total (U) \$10,823 Continue development of specific air objects to support JSIMS architecture (U) \$10,823 Continue ASM integration effort and operate the program management office (U) \$1,500 Continue to participate in Joint M&S architecture development activities (U) \$1,000 Support and configuration manage the Re-engineered AWSIM (U) \$1,500 Expand interfaces of M&S systems and real world C3I systems (U) \$17,323 Total 	d real world C3 and C31 d real world C3 and C31 d real world C3 and C31 d operate the program ma architecture development Re-engineered AWSIM d real world C31 systems	Re-engineered AWSIM real world C3 and C3I systems jects to support JSIMS architect operate the program managemer rchitecture development activitie Re-engineered AWSIM real world C3I systems	ure nt office s		
(U) B. Program Change Summary (\$ in Thousands)				Ē	
(U) Previous President's Budget (U) Appropriated Value	FY 1995 13,306 14,110	FY 1996 6,700 6,700	FY 1997 6,562	1 otal <u>Cost</u> Continuing	
	-517 -287 1,350 14,656	-244 -105 -53 6,298	10,761	Continuing	
 (U) Change Summary Explanation: Funding: Funding: FY95: \$ 1.350M reprogrammed in to support Army-Air Force Warfighter Talks Demonstration FY96: \$ 3.4 is planned to be reprogrammed in to make NASM executable FY96: \$ 10.800M added to make NASM executable -\$ 3.943M taken to support Joint Modeling and Simulation System (JSIMS) core development \$ 4.500M added to enable NASM to achieve initial operational capability (IOC) in FY99 	ort Army-Air For d in to make NA/ scutable deling and Simu	rt Army-Air Force Warfighter Talks Demonstration in to make NASM executable cutable feling and Simulation System (JSIMS) core developing achieve initial operational capability (IOC) in FY99	ilks Demonstra IIMS) core deve ility (IOC) in F	tion slopment Y99	
	Рад	Page 4 of 10 Pages			Exhibit R-2





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit) DATE March 1996	966
BUDGET ACTIVITY 7 - Operational System Development	PENUMBER AND TITLE 0207601F USAF Wargaming and Simulation	
PROJECT NO. AND NAME 1008 National Air and Space Warfare Model (NASM)		
 \$ 0.070M Air Force internal reprioritization \$ 0.526M revised economic assumption 		
Schedule: No changes		
Technical: Technical risk is increased if unable to perform several rapid prototypes	prototypes	
(U) C. Other Program Funding Summary (\$ in Thousands) None		
(U) D. Schedule Profile FY 1995	$\frac{\text{FY } 1996}{}$	
(U) AWSIM Re-engineering	. X	
(U) NASM Prototypes		
(U) NASM Process Re-engineering X	× ·	
(U) NASM Integration	X	
(U) Initial Op Capability (IOC) 4QFY99 (U) Full Op Capability (FOC) 4QFY03		
Note: NASM development schedule coincides with the Joint Simulation System (JSIMS) schedule of IOC in FY99 AWSIM/R undergoes ALSP Confederation Testing in 2nd Qtr FY96 and is scheduled to be fielded in 3rd Q NASM Process Re-Engineering expanded to include analysis of DoD HLA and other evolving M&S efforts.	Simulation System (JSIMS) schedule of IOC in FY99 and FOC in FY03. 2nd Qtr FY96 and is scheduled to be fielded in 3rd Qtr FY96. nalysis of DoD HLA and other evolving M&S efforts.	
Pag	Page 5 of 10 Pages Exhibit R-2	

1 1	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207601F USAF Wargaming and Simulation	Simulation
PROJECT NO. AND NAME 1008 National Air and Space Warfare Model		
NASM Integration contract award pending approval on NASM ORD.	oval on NASM ORD. Page 6 of 10 Pages	Exhibit R-2
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	T/PROJECT CO	ST BREAKI	OWN (R-3)	DATE March 1996
вирдет астіvіту 7 - Operational System Development	PE 1	PE NUMBER AND TITLE 0207601F USA	DITILE USAF Wargaming and Simulation	mulation
PROJECT NO. AND NAME 1008 National Air and Space Warfare Model (N	(NASM)			
(U) A. Project Cost Breakdown (\$ in Thousands)				
National Air & Space Warfare Model (NASM)	FY 1995	FY 1996	FY 1997	
 (U) Cost Categories: (U) - a. Software development (U) b. Contractor support (U) c. Program Management support (U) d. Travel (U) Total 	9,540 3,222 1,794 100 ·	2,982 2,492 724 100 6,298	12,006 3,541 1,676 100 17,323	
(U) B. Budget Acquisition History and Planning Information (§ in Thousands)	ation (\$ in Thousands)			
Not Applicable				
	Page 7 c	Page 7 of 10 Pages		Exhibit R-3

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION SI	HEET (R	-2 Exhil	oit)		DATE	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development		PE NI 020	PE NUMBER AND TITLE 0207601F USA	IITLE JSAF Wal	PE NUMBER AND TITLE 0207601F USAF Wargaming and Simulation	and Sim	ı		
PROJECT NO. AND NAME 1011 Joint Modeling & Simulation Integration Program	am (JMSIP)								
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
1011 Joint Modeling & Simulation Integration Program (JMSIP)	0	0	2,038	4,051	5,414	7,047	8,037	Continuing	Continuing
(U) A. Mission Description and Budget Item Justification Numerous models currently exist and are being modified or developed for a broad range of areas including acquisition, analysis, test and evaluation, and training MSIP is a new start which funds the upgrades to R&D funded legacy models selected through a board process. The selection process allows the board to influence the direction of legacy model development and interaction for the entire modeling and simulation community. Emphasis is placed on joint applicability and acceptance.	ied or develo, unded legacy i for the entii	or developed for a broad range of areas including acquisition, analysis, test and evaluation, and training ded legacy models selected through a board process. The selection process allows the board to influence or the entire modeling and simulation community. Emphasis is placed on joint applicability and	ad range of a sted through and simulation	areas includi a board pro on communi	ng acquisitic cess. The se ty. Emphasi	n, analysis, lection proc s is placed c	test and eva ess allows th n joint appl:	lluation, and te board to ir icability and	training. ifluence
 U) FY 1997 (\$\\$	ntation in curtion for curre tion for curre int standards campaign, m	rent campaig nt campaign definition ission, and e	ın level lega level legacy ngagement l	cy models models egacy model	ø				
(U) Previous President's Budget (FY 1996)(U) Appropriated Value(U) Adjustments to Appropriated Value	FY 1995		FY 1996	FY 1997 0	Total Cost 0	al 0			
 a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/President's Budget (U) Change Summary Explanation: Funding: FY96: \$ 0.500M is planned to be reprogrammed to JMSIP to support Air Force priority 	mmed to JM	SIP to suppor	t Air Force	2,038 2,038 priority	2,038	& &			
		Page 8 of 10 Pages	0 Pages				Exhibit R-2	-2	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207601F USAF Wargaming and Simulation	
PROJECT NO. AND NAME 1011 Joint Modeling & Simulation Integration Program (JMSIP)		
FY97: \$ 2.100M added to JMSIP to support Air Force priority - \$ 0.062M revised economic assumptions Schedule: New schedule being developed. Technical: Not Applicable (U) C. Other Program Funding Summary (\$ in Thousands) O&M funds support mainenance and upgrade of existing models and simulations under JMSIP.	ity mulations under JMSIP.	
(U) O&M (AF 3400)	FY 1997 FY 1998 FY 1999 FY 2000 FY 2001 Compl 2,100 4,200 5,650 7,400 8,500 Cont	o rotat Lost or Cont
(U) D. Schedule Profile		
(U) Define Evaluation Group/Procedures (U) Request Proposals (U) JMSIP Board meets (U) Fund start of multiple projects	$ \frac{\text{FY 1996}}{2} 4 1 \frac{\text{FY 1997}}{2} 4 $ $ X X X X $ $ X X \cdots \cdots $	
P_{i}	Page 9 of 10 Pages Exhibit R-2	t R-2

and Simulation	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ST BREAKD	OWN (R-3)	DATE	March 1996
g & Simulation Integration Program (JMSIP) reakdown (S in Thousands) ation Integration Program (JMSIP) FY 1995 FY 1995 FY 1997 1,813 1,813 150 2,038 ttion History and Planning Information (S in Thousands)	ystem Development	NUMBER AND TITLE 1207601F USAF	- Wargaming and Sim		
& Simulation Integration Program (JMSIP) & Simulation Integration Program (JMSIP) FY 1995 FY 1995 FY 1997 FY 1997 FY 1997 FY 1997 FY 1997 THE STATE OF SUPPORT THE STA	g & Simulation Integration Program (JMSIP)				
& Simulation Integration Program (JMSIP) FY 1995 FY 1996 (FY 1997) ories: ories: are Development are Development Support 50 25 25 25 25 25 25 25 25 25 25 25 25 25	(U) A. Project Cost Breakdown (\$ in Thousands)				
uare Development 1,813 1story and Planning Information (\$ in Thousand\$) 1,813 1story and Planning Information (\$ in Thousand\$)		FY 1996	FY 1997		
(Acquisition History and Planning Information (\$ in Thousands)	Ŭ Ĕ		1,813 150 50 25 2,038		
	Not Applicable				
	Page 10	Page 10 of 10 Pages		Exhibit R-3	က္

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RDT&E BUDGET ITEM JUS	STIFICA	TION S	TIFICATION SHEET (R-2 Exhibit)	-2 Exhil	bit)		DATE	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development		PE NI 020	PE NUMBER AND TITLE 0208006F Mission Planning Systems	ritle Aission P	lanning (Systems			
PROJECT NO. AND NAME 3858 Air Force Mission Support System (AFMSS)		-							
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost

Continuing

18,582

18,244

18,118

17,129

18,500

13,851

(U) A. Mission Description and Budget Item Justification

Air Force Mission Support System (AFMSS)

- annual software releases. AFMSS is the single unit-level mission planning system supporting all current/future aircraft and associated weapons: A/OA-10, F-15, F-16, Fmission planning system known as the Air Force Mission Support System (AFMSS). AFMSS acquisition strategy leverages military and commercial software integrated MH/AH-6, MH-47, MH-53, MH-60, and C/AC/EC/MC-130. AFMSS is currently being fielded by the USAF and is in daily use by the US Special Operations Command on Commercial-Off-The-Shelf (COTS) hardware. AFMSS encompasses evolutionary software and hardware development in an open systems architecture with planned planning system. This program maintains and preserves combat capability on old existing "legacy" planning systems which will migrate into a USAF wide standard The Mission Planning System program was established in 1990 to consolidate mission planning system development efforts into a single unit-level mission 22, F/EF-111, F-117, JSTARS, AWACS, ABCCC, U-2, AGM-130/GBU-15, TSSAM, JDAM, JSOW, B-1, B-2, B-52, KC-10, KC/EC/RC-135, C-5, C-17, C-141, (USSOCOM). In addition, AFMSS has been selected by the US Army to form part of their core aviation mission planning software.
- transportables, non-deployable, and portable laptop workstations. AFMSS Block C1.0 software is currently being operationally fielded to the Combat Air Forces (CAF). Mission Planning Systems is budget activity 7. The Mission Planning Systems program currently supports deployed AFMSS systems, which includes Subsequent AFMSS Block C software releases and systems, including a desktop workstation, are in engineering and manufacturing development.
- The AFMSS program is managed by the Directorate for Mission Planning Systems, Electronic Systems Center, Hanscom AFB, Massachusetts. Contractor for the AFB, Oklahoma; Sacramento Air Logistics Center (SM-ALC), McClellan AFB, Sacramento, California; Warner Robins Air Logistics Center, (WR-ALC), Warner Robins AFMSS project is Lockheed Sanders, Nashua, New Hampshire. In-house (Government) work is performed by Oklahoma City-Air Logistics Center (OC-ALC), Tinker AFB, Georgia; and Ogden Air Logistics Center (OO-ALC), Hill AFB, Utah.

Exhibit R.2	Page 1 of 7 Pages			
	(DTD). Began integration of MH/AH-6, MH-47, MH-60, F-117, and EF-111. Acquired and began deployment of Portable Mission Planning System (PMPS).	(U) \$ 800	\$ (D) -	•
135, MH/AH-6, and C-17 with Data Transfer Device	Tri-Command (TRICOMS) to AFMSS interface. Completed module development for RC-135, MH/AH-6, and C-17 with Data Transfer Device			
1-60 planning modules. Began development of the	Continued integration of B-52, F-15A/B/C/D, F-16, F-111, C-5, C-141, AGM-130, and MH-60 planning modules. Began development of the	(U) \$ 2,798	\$ (D) -	٠
eduled for FY96.	Rebaselined AFMSS Block C2.0/C2.0+ software development continues with release rescheduled for FY96.	(U) \$ 3,806	\$ (D) -	•

RD	RDT&E BUDGET ITEM JUSTIFICATION	STIFICATION SHEET (R-2 Exhibit)	те March 1996
BUDGET ACTIVITY 7 - Operational Sy	вирсет Асті∨ітУ 7 - Operational System Development	PE NUMBER AND TITLE 0208006F Mission Planning Systems	
PROJECT NO. AND NAME 3858 Air Force Missi	PROJECT NO. AND NAME 3858 Air Force Mission Support System (AFMSS)		
- (U)\$ 500 - (U)\$ 2,647 - (U)\$ 2,600 - (U)\$ 2,600 - (U)\$ 500 - (U)\$ 13,851	Continued AFMSS Block C2.5+ design, to include: enhanced air drop and air refueling; expande interoperability with Navy mission planning systems; initial nuclear weapons delivery, added Cor added full Small Computer System Interface (SCSI-2) interface. Continued B-52 unique planning efforts and Data Transfer Upload Cartridge (DTUC) capability. Completed development of the Common Mapping Production System (CMPS). Continued B-1B unique planning efforts and DTUC capability. Began study for AFMSS software re-architecture. Total	Continued AFMSS Block C2.5+ design, to include: enhanced air drop and air refueling; expanded weapons and delivery tactics planning; initial interoperability with Navy mission planning systems; initial nuclear weapons delivery, added Common Low Observable Autorouter (CLOAR); added full Small Computer System Interface (SCSI-2) interface. Continued B-52 unique planning efforts and Data Transfer Upload Cartridge (DTUC) capability. Completed development of the Common Mapping Production System (CMPS). Continued B-1B unique planning efforts and DTUC capability. Began study for AFMSS software re-architecture. Total	felivery tactics planning; initial trable Autorouter (CLOAR);
(U) FY 1996 - (U) \$ 9,705 - (U) \$ 5,380 - (U) \$ 3,000 - (U) \$ 983 - (U) \$ 19,068	AFMSS Block C2.0/C2.0+ software development continues with releases scheduled for Mar AFMSS Block C2.2 software development effort plus testing results feedback incorporation. Begin integration of F-16 and AGM-130. Continue integration of MH/AH-6, MH-47, MH-111, F-117, JSTARS, AWACS, ABCCC, AGM-130/GBU-15, TSSAM, IDAM, JSOW, B-1, 141, MH-47, MH-53, MH-60, U-2, C/AC/EC/MC-130, WCMD, and SR-71. Continue AFMSS 3.0 Software re-architecture effort	AFMSS Block C2.0/C2.0+ software development continues with releases scheduled for Mar 96 and Jun 96, respectively. AFMSS Block C2.2 software development effort plus testing results feedback incorporation. Begin integration of F-16 and AGM-130. Continue integration of MH/AH-6, MH-47, MH-60, F-117, EF-111, A/OA-10, F-15, F-16, F-22, F-111, F-117, JSTARS, AWACS, ABCCC, AGM-130/GBU-15, TSSAM, JDAM, JSOW, B-1, B-2, B-52, KC-10, KC/EC/RC-135, C-5, C-17, C-141, MH-47, MH-53, MH-60, U-2, C/AC/EC/MC-130, WCMD, and SR-71. Continue AFMSS 3.0 Software re-architecture effort	ctively. OA-10, F-15, F-16, F-22, F- :C/EC/RC-135, C-5, C-17, C-
(U) <u>FY 1997</u> - (U) \$5,880 - (U) \$2,000 - (U) \$3,800 - (U) \$6,820 - (U) \$18,500	AFMSS Block C2.2 software development continues with release scheduled for late FY97. Begin integration of B-2, JSTARS, and U-2. Continue integration of F-16 and AGM-130. F-117, and F/EF-111. Continue AFMSS A/W/E support to A/OA-10, F-15, F-16, F-22, F/EF-111, F-117, JSTAR JDAM, JSOW, B-1, B-2, B-52, KC-10, KC/EC/RC-135, C-5, C-17, C-141, MH/AH-6, MF WCMD, and SR-71. Continue/finish AFMSS 3.0 re-architecture Total	AFMSS Block C2.2 software development continues with release scheduled for late FY97. Begin integration of B-2, JSTARS, and U-2. Continue integration of F-16 and AGM-130. Complete integration of MH/AH-6, MH-47, MH-60, F-117, and F/EF-111. Continue AFMSS A/W/E support to A/OA-10, F-15, F-16, F-22, F/EF-111, F-117, JSTARS, AWACS, ABCCC, AGM-130/GBU-15, TSSAM, JDAM, JSOW, B-1, B-2, B-52, KC-10, KC/EC/RC-135, C-5, C-17, C-141, MH/AH-6, MH-47, MH-53, MH-60, U-2, and C/AC/EC/MC-130, WCMD, and SR-71. Continue/finish AFMSS 3.0 re-architecture	of MH/AH-6, MH-47, MH-60, AGM-130/GBU-15, TSSAM, J-2, and C/AC/EC/MC-130,
(U) B. Program Chang	(U) B. Program Change Summary (\$\frac{5}{in}\$ Thousands)		

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Page 2 of 7 Pages



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	M JUST	IFICATI	ON SHE	ET (R-2	Exhibi	t)	Pγ	DATE Mare	March 1996
BUDGET ACTIVITY 7 - Onerational System Development			PE NUM 0208	PE NUMBER AND TITLE 0208006F Mission Planning Systems	LE ssion Pla	Inning Sy	/stems		
PROJECT NO. AND NAME 3858 Air Force Mission Support System (AFMSS)	MSS)								
(U) Previous President's Budget(U) Appropriated Value(T) Adjustments to Appropriated Value (changes apply to	ply to	FY 1995 14,170 14,170	FY 1996 20,585		FY 1997 19,386	Total Cost TBD			
prior and current year only) a. General Congressional Reductions b. Small Business Innovative Research (SBIR) c. Omnibus and Other Above Threshold	·	-303		-654 -439 -424					
Reprogramming (U) Adjustments to Budget Years Since FY96 PB (U) Current Budget Submit/President's Budget		-16 13,851		19,068	-886 18,500	TBD	0		
 (U) Change Summary Explanation: (U) Funding: FY 97 Reduction for overhead reduction. (U) Funding: FY 97 Reduction for overhead reduction. (U) Schedule: CI.0 software release rescheduled from Sep 94 to Jan 95 to fix testing deficiencies. This delay rippled the delivery schedule for C2.0/C2.0+ software releases have been rescheduled for delivery to the field in Feb 96 and May 96. 	nead reducti cheduled fro releases hav	on. m Sep 94 to	Jan 95 to fiv neduled for c	k testing defi Jelivery to th	iciencies. T	his delay rip ib 96 and M	pled the deliv ay 96.	rery schedule	for C2.0/C2.0+
(U) Technical: AFMSS C1.0 software release has received Air Combat Command (ACC) and Air Mobility Command (AMC) approval the B-52 and C-130. Other aircraft and weapons will integrate with AFMSS at approximately one aircraft/month through Aug 96.	clease has re and weapor	ceived Air C is will integr	Combat Com ate with AF	mand (ACC MSS at appr	.) and Air M oximately o	obility Com ne aircraft/n	mand (AMC)) approval foi n Aug 96.	received Air Combat Command (ACC) and Air Mobility Command (AMC) approval for operational use by ons will integrate with AFMSS at approximately one aircraft/month through Aug 96.
(U) C. Other Program Funding Summary (\$ in Thousands)	(housands)					,	į	To	Total
(U) Other Procurement, AF, 28006F AFMSS Procurement comes under BPAC 833040, Theater Air Control System Improvement	FY 1995 22,007	FY 1996 18,153	FY 1997 18,385	FY 1998 17,933	FY 1999 18,381	FY 2000 17,652	FY 2001 18,151	Cont Cont	<u>Cost</u> TBD
(TACSI) (U) Operations & Maintenance, 28006F	21,000	19,451	23,162	25,261	21,070	21,510	23,311	Cont	TBD
			Page 3 of 7 Pages	7 Pages				Exhibit R-2	
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RDT&E BUDGET ITEM JUSTIFICATION	STIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Dovolcomont	PE NUMBER AND TITLE	
	UZU8UU6F Mission Planning Systems	
13858 Air Force Mission Support System (AFMSS)		
(I) O&M finds for PR 28006F summer the conference and bandances ancieties.	CATALOG BILL	

terminated this year. O&M funding supported approximately 240 older systems in FY94. By FY99, a similar amount of funding will support over 1500 mission planning operational systems until replaced by AFMSS. Mission Support System II (MSS IIA) supports existing combat capability for the F-15, F-16, F/RF-4, and F-111 aircraft O&M funds for PE 28006F support the software and hardware maintenance costs of AFMSS. These funds also support the maintenance of the following existing mission planning. Mission Data Preparation System (MDPS) supports conventional and nuclear mission planning, aircraft/weapons avionics loading, compatibility between evolving B-1B, B-52H avionics, their weapons systems, and USSTRATCOM. The conventional Mission Planning and Production System (CMPPS) was systems world-wide.

at provides mission op their (U) There are no other related RDT&E activities for unit level mission planning in the USAF. Over 40 individual aircraft a

respective software that is used in conjunction with the AFMSS core software. The aircraft and weapons programs develop respective software that is used in conjunction with the AFMSS core software. The aircraft and weapons software is a complimentary, synergistic effort that specific aircraft and weapons information and functionality to the core AFMSS software. The combined software gives the warfighter the full spectrum of magnining and combat capabilities for their aircraft or weapon including interoperability with planned Theater Battle Management (TBM) systems.	n with the function of function or	he AFIM he AFIM onality t weapor	ISS core to the co	softwa softwa re AFN ng inte	re. The ASS soft-roperabi	aircraft aircraft ware. T lity with	AF. Or and we: he comb	er 40 inc apons sof sined soft d Theates	iividual tware is ware giv	arrcraft a comp ves the	and we limenta warfigh ement (T	apons promy, syner, ter the full FIM) sys	ograms develop gistic effort that Il spectrum of n tems.
(U) D. Schedule Profile													
		FY 1995	995			FY 1996	966			FV 1997	264		
		2	3	4		,	7	~	-	,	; ;	•	
(U) AFMSS Block C1.0 Software Release	*	1	,	٠	4	4	n	+	-	7	า	1	
(U) AFMSS Block C Workstation	×	×	×	×	×	×	×	*					
Deliveries			t i	•	:	;	4	<					
(U) Block C1.0 Safety of Flight Testing	×	*											
(U) Block C1.0 Cleared for Operational		i i	*										
Use													
(U) AFMSS Block C1.0 OT&E			×	*									
(U) AFMSS Block C2.0/C2.0+	×	×	×	**									
Development					_								
(U) AFMSS Block C2.0/C2.0+		×	×	×	* -								
Engineering Software Releases			l :	!	!								
(U) AFMSS Block C2.0/C2.0+ FQT			×	×	*								
(U) AFMSS Block C2.0/C2.0+ Software			!	!	;×	×	*						
Release					!	!	;						
(U) AFMSS Portable Deliveries			×	×	×	×	×	×	>	>	>	*	
(U) AFMSS Block C2.0+ OT&E				!	t I	(: ×			< *	<		
										:			



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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	T COST BRE	AKDOWN	(R-3)	DATE March 1996
вирает астилту 7 - Operational System Development	PE NUMBER AND TITLE 0208006F MISS	D TITLE Mission Plan	PE NUMBER AND TITLE O208006F Mission Planning Systems	
\mathbf{x} $\frac{\mathrm{FY} 1995}{1}$	Y 199	1 4	FY 1997	4
. C2.2 Software . C2.2 Engineering	× × ×	·* ×	N	_
Software Releases (U) AFMSS Block C2.2 FQT (U) AFMSS Block C2.2 Software Release *- completion				××
			* ‡	
		•		
	Page 5 of 7 Pages			Exhibit R-3
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RDT&E PROGRAM ELEMENT/PR	OJECT CO	ST BREAK	/PROJECT COST BREAKDOWN (R-3)	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE 02	PE NUMBER AND TITLE 0208006F MISS	PE NUMBER AND TITLE 0208006F Mission Planning Systems		
PROJECT NO. AND NAME 3858 Air Force Mission Support System (AFMSS)					
(U) A. Project Cost Breakdown (\$ in Thousands)					
	FY 1995	FY 1996	FY 1997		
(U) Primary Software Development (U) Aircraft/Weapons/Electronics (A/W/E) Development	6,408 4,320	12,183 2,422	10,085 4,683		
Support (U) Systems Engineering (U) Program Management	1,368 684	2,559	1,939		
(U) Miscellaneous (U) Total	1,071	875 19,068	824 18,500		
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands) Not applicable.	in Thousands)				
	Page 6 o	Page 6 of 7 Pages		Exhibit R-3	

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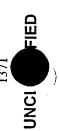


RDT&E PROGRAM ELEMENT/	OGRAM E	LEMENT/	PROJECT	PROJECT COST BREAKDOWN (R-3)	AKDOWN (R-3)	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	Developme	ant		PE NUMBER AND TITLE 0208006F MISS	PE NUMBER AND TITLE O208006F Mission Planning Systems	ning Syste			
PROJECT NO. AND NAME 3858 Air Force Mission Support System (AFMSS)	pport System	(AFMSS)							
(U) C. Funding Profile (\$ in Thousands)	<u> Thousands)</u>								
Funds Profile	1994 Obs	1995 Obs	1996 Obs	1997 Obs	1994 Exp	1995 Exp	1996 Exp	1997 Exp	
1994Q1	*4,200				*100	,			-
1994Q2	*1,000				008**				
1994Q3	*,600				**7.231				
1994Q4 1994 Tot	*19.538				**16,831				
199501	068*	*2,032			**279				
199502	452	6,071			1,937	200			
199503	2,000	3,196			2,263	8,500			
199504	167	1,013			200	3,370			
1995 Tot	3,509	13,032			4,679	12,370	,		
1996Q1		172	*5,185		637	382	2,388		
1996Q2		86	7,301		200	250	3,012		
1996Q3		549	5,686		400	269	4,000		
199604			612			399	2,785		
1996 Tot		819	18,784		1,537	1,300	12,185		
1997Q1				10,000		100	1,900	1,500	
1997Q2				5,146		81	2,083	5,161	
1997Q3			284	1,560			1,900	4,478	
1997Q4 1907 Tet			284	650 17.356		181	6,883	3,512 14,151	
199801			•	1,144				2,115	
199802				•				2,234	
1998Q3									
1998Q4				1 144				4.349	
101 8661				1,111					
			1	Page 7 of 7 Pages			Exhibit R-3	R-3	
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION SI	HEET (F	R-2 Exhi	bit)		DATE	March 1996	9
вирсет Астіvіт∀ 7 - Operational System Development		PE N 02(PE NUMBER AND TITLE 0208021F Electronic Combat Support	TITLE Sectronic	Comba	Suppor			
PROJECT NO. AND NAME 0374 Electronic Combat Support, C3 Protection/Multi	i-mission.	Technolo	i-mission. Technology and Support	pport					
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
0374 Electronic Combat Support, C3 Protection/Multi-mission.	[]	[]		[]	[]	[]	[]	0	Continuing

(U) A. Mission Description and Budget Item Justification This program is in budget activity 7 - Operational System Development, Research Category 6.6 This program conducts advanced development research and demonstration/validation where existing technology is applied to field requirements. This program studies and a part of the Joint Command and Control Warfare Center (JC2WC) mission (formerly the Joint Electronic Warfare Center (JEWC). The Air Force as executive agent Secretary of Defense identified the need for this capability in 1983, and with unanimous approval of the services and the Unified Commands, JCS made this function forces. It identifies existing military and commercial research and development efforts which can satisfy unfulfilled operational requirements as identified by the develops IW/C2W prototypical systems to provide warning, self protection, and support to personnel and equipment against combat systems employed by enemy Unified Commands, and quickly bridge the gap between technology developments and meld the technology into the warfighter's operational requirements. The is responsible for the total funding of this effort.

Page 1 of 6 Pages





March 1996 DATE 0208021F Electronic Combat Support RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 7 - Operational System Development PROJECT NO. AND NAME **BUDGET ACTIVITY**

0374 Electronic Combat Support, C3 Protection/Multi-mission. Technology and Support

iousands):	[[[] [] [] [] [] [] [] [] []	Awarded Delivery Order for small safeline tracking systems using fow earth based tracking beacons.	J Awarded Delivery order for the development of [engineering model of the equipment based on a beam steered antenna concept. Additional requirements are the design and	construction of test targets for use as simulated EA signal sources. (Piggybacked on I Itraining device development in FY94)			_	_					accuracy of terrestrial emitters and other battletield targets.	
(S) FY 1995 (\$ in Thousands):	s] (s) -	\$] (D) -	\$] (S) -		- (C) [s]	- (S-N/F)[\$ 0]	\$] (n) -	(U) [8]	\$] (n) -	[8](n) -	- (U) [s]	(3) (2) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	- (S/NF)[\$	
(S) F	l													

Page 2 of 6 Pages

RDT&E BUDG	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
в∪рсет Астил∀ 7 - Operational System Development	PENUMBER AND TITLE 0208021F Electronic Combat Support	
PROJECT NO. AND NAME 0374 Electronic Combat Support, C3 Protection/Multi-mission.	Technology and S	
(U) FY 1996 - (S) [\$] Demonstr - (U) [\$] Design bato a prede - (U) [\$] Design bato a prede - (U) [\$] Continue s - (U) [\$] Begin deve shortfalls. - (S/NF) [\$] [Demonstrate the capabilities of the previously developed [g] System Design baselining and prototyping of a multipurpose command and control warfare vehicle capable of carrying small payloads baselining and prototyping of a multipurpose command and control warfare vehicle capable of carrying small payloads long by a predefined altitude and operating for an extended period of time integrate and demonstrate the CZW payloads developed for the Joint Tactical UAV on other UAV platforms. Demonstrations are expected to take place in several locations. CZW. Begin development of a CZW requirements tool to assist in the generation of the IPL, track current and future CZW capabilities and shortfalls. I]	warfare vehicle capable of carrying small payloads cal UAV on other UAV platforms. Demonstrations mmands to investigate the evolving state of the art of PL, track current and future C2W capabilities and
·	Page 3 of 6 Pages	Exhibit R-2

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Under JC2WC leadership the government and contractor labs work to deliver products that support the warfighting CINCs and technology to the field and fleet through rapid prototyping, briefings and demonstrations of state of the art equipment currently data transfer. Efforts will be directed at taking advantage of commercialization of products traditionally thought of as defense is available in Service and Industry labs, the JC2WC arranges for the development of a prototype and field demonstration of underdevelopment. The primary means to accomplish this will be through the sponsorship of symposia and use of electronic analysis leading to development of Pre-Milestone Zero prototypes for field demonstrations and operations. When technology reports, systems integration, fabrication, and software development. The JC2WC also maintains Cooperative Research and Washington DC. When required technologies are not available within DoD, JC2WC manages contractual efforts to produce, Development Agreements (CRDAs) with Lockheed-Fort Worth, Lockheed-Sanders, and American Electronics Laboratories. test and demonstrate prototypes. The Center also facilitates the exchange of information between the operators in the fleet and field and the laboratories, industry and Service program managers. The JC2WC currently has an Engineering Support Work performed by: The Joint Command and Control Warfare Center at Kelly AFB TX performs independent studies and Contract with Southwest Research Institute (SwRI), San Antonio TX, to perform engineering analysis and design, studies, The Center will continue to bridge the gap between the lab, the operator, and business in order to introduce cutting edge **March 1996** the prototype. Laboratories include Phillips Lab at Hanscom AFB MA, and Kirtland AFB NM, The Naval Research Lab, DATE 0208021F Electronic Combat Support related, i.e. MMIC and ASIC chips currently being used in civilian applications (con't) RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) 0374 Electronic Combat Support, C3 Protection/Multi-mission. Technology and Support PE NUMBER AND TITLE address operational IW/C2W shortfalls - Operational System Development (S/NF)[\$ 6 PROJECT NO. AND NAME (S/NF)[\$ (U) FY 1997 BUDGET ACTIVITY

Page 4 of 6 Pages

Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-2 Exhibit)	DATE
вирает Астімту 7 - Operational System Development	PE NUMBER AND TITLE 0208021F Electronic Combat Support	nbat Support
PROJECT NO. AND NAME 0374 Electronic Combat Support, C3 Protection/Multi-mission. Te	Technology and Support	
(U) B. Program Change Summary (\$ in Thousands)		
(U) Previous President's Budget (U) Appropriated Value a. Cong Gen Reductions b. SBIR [-]	T FY 1996 FY 1997 [1] [1] [1] [1] [1] [1] [1] [1] [1] [1]	TOTAL COST Cont Cont
d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/President's Budget	[1] [1]	
 (U) Change Summary Explanation: Funding: FY97: \$40K reduciton for inflation, \$7K for higher AF priorities FY96: \$10K for Bosnia I reduction, \$27K for congressional genera 	higher AF priorities congressional general, e.g., Sec 8129. reductions	
Schedule:		
Technical:		
2d	Page 5 of 6 Pages	Exhibit R-2
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

BUDGET ACTIVITY

PE NUMBER AND TITLE

March 1996

DATE

PROJECT NO. AND NAME

0208021F Electronic Combat Support 7 - Operational System Development

0374 Electronic Combat Support, C3 Protection/Multi-mission. Technology and Support

(U) C. Other Program Funding Summary (\$0 in Thousands)

(U) Technology development is related to that being developed in the following PE's : PE 0603711A, Aircraft Survivability Equipment, PE 00603718A, JC2WC/OT programs support services and joint electronic combat (EC) program (U) JC2WC/OT builds upon technologies demonstrated in PE 0604270F, EW Development, and other services related PE's Vulnerability Susceptibility; PE 0603755A, Tactical ECM Systems ands PE 0603214N, Tactical C3 Countermeasures.

(U) There is no unnecessary duplication of effort within the Air Force or Department of Defense

(U) Other Appropriations Funds (\$ in Thousands) : not applicable.

(U) D. Schedule Profile

N/A

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Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	USTIFICA	TION SI	HEET (R	-2 Exhil	bit)		DATE	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development		PE N 02(PE NUMBER AND TITLE 0208060F Theater Missile Defense	TITLE Theater M	issile De	fense			
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	26,215	24,230	22,285	45,134	45,713	46,763	48,696	0	Continuing
4478 Command, Control, Communications, Computers, and Intelligence Enhancements	12,691	12,059	13,374	26,713	27,086	27,534	28,672	O	Continuing
4479 Attack Operations Concept Development	13,524	12,171	8,911	18,421	18,627	19,229	20,024	TBD	Continuing

(U) A. Mission Description and Budget Item Justification

(TCTA), Defensive Planning Module (DPM), Attack Operations Decision Aid (AODA), and Active Defense Decision Aid (ADDA)), Intel Support Systems (Intel Support Concept and Real Time Intel Tools) and integration of these systems within the Air Force and among the Services. Attack Operations focuses on improving the ability to Improvements to existing Attack Operations systems; and the development of the Airborne Laser. PE028060F is primarily concerned with C4I and Attack Operations as production through deployment, prior to and during launch, as well as soon after launch before critical mobile targets are able to egress to hide locations. The foundation improve our ability to assess, target, plan and task attackers to counter Theater Missile (TM) threats. The C4I program encompasses JTIDS TMD Upgrades (including, for Attack Operations is improved C4I and automatic target cueing/recognition (ATC/R) upgrades to one or more airborne platforms (Joint STARS, F-15E, Rivet Joint, U-2). The Air Force program is based upon taking our defense against the growing theater missile threat to the enemy by making near-term modifications to existing concentrates on defining improvements to existing operational capabilities, developing and evaluating prototypes, demonstrating as well as simulating modifications locate, identify, target and destroy theater missiles and supporting infrastructure on the ground. Attack Operations is concerned with the theater missile threat from during operational concept demonstrations, and coordinating the transition of these capabilities to operational systems. C4I improvements contribute greatly to the overall effectiveness of TMD systems developed by each of the Services and the Ballistic Missile Defense Organization (Patriot, THAAD, etc.). C4I enhancements for example, TMD Message Set Integration and JTIDS Range Extension), Distributed Battle Management, Operations Decision Tools (Time Critical Target Aid part of the Air Force focus in TMD, but also addresses some initial low-level studies and analysis for the Airborne Laser (ABL) technology program. AF TMD theater assets. The TMD program is concerned with improving existing operational capability, evaluating and demonstrating prototypes, as well as simulating Air Force Theater Missile Defense (TMD) is focused in three areas: Command, Control, Communications, Computers, and Intelligence (C41) enhancements; modifications during operational concept demonstrations.

(U) Acquisition Strategy: HQ ASC will provide the program management for the concept exploration of TMD Attack Operations. ASC will conduct lab demonstrations with Wright Labs and support CONOPS development and requirements definition by analyzing and demonstrating measures of effectiveness for various sensor improvements and cueing schemes. HQ ESC will provide program management for the concept exploration of C4I enhancements. Prototypes and analysis of

Page 1 of 12 Pages





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

PE NUMBER AND TITLE

March 1996

DATE

0208060F Theater Missile Defense

7 - Operational System Development

BUDGET ACTIVITY

improvements to existing C4I assets will compliment the Attack Operations effert with combined participation in Operational Concept Demonstrations. These Attack element. Existing contracts will be used for those systems where engineering change proposals are appropriate. Systems Engineering and Technical Analysis (SETA) Operations and BMC4I analyses and demonstrations are specifically targeted against operational deficiencies identified in the TMD Mission Area Plan (MAP), are requirements and fielding of proposed material solutions will continue beyond concept exploration in the appropriate program element for a particular system. For example, the TMD demonstration and requirements analysis for Joint STARS ATR may transition into a Joint STARS P3I effort within the Joint STARS program contracts will be used to support the requirements definition phase of TMD improvements. In those areas where new materiel solutions are necessary to correct a traceable to the AF and JROC Mission Need Statement (MNS) and are consistent with the ACC TMD Concept of Operations (CONOPS). Integration of TMD deficiency, the source selection process will be followed to establish a new contract.

*FY94 TMD tasks were funded in PE27411F and PE53617F.

(U) B. Program Change Summary (\$ in Thousands)

Total

Cost	OBI.						
FY 1997 22986						-701	22285
FY 1996 25102	25102	089-				-192	24230
7Y 1995 26434	27302	-298	-570		-219		26215
(U) FY 1996 President's Budget	(U) Appropriated Value (U) Adjustments to Appropriated Value	a. Congressional General Reductions	Small Business Innovative Research (SBIR)	c. Omnibus or Other Above Threshold Reprogram	d. Below Threshold Reprogramming	(U) Adjustments to Budget Years Since FY 1996 PB	(U) Current Budget Submit/FY 1997 President's Budget

(U) Change Summary Explanation:

Funding: FY97 funding reduced due to administrative adjustment (3 Air Force programs (-114) and revised inflation (-587).

Schedule: No impact to milestones.

1378

Page 2 of 12 Pages

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-2 Exhibit)	DATE March 1006
ВИВОЕТ АСТІVITY 7 - Operational System Development	PE NUMBER AND TITLE 0208060F Theater Missile Defense	000
Technical: N/A		
(U) C. Other Program Funding Summary (\$ in Thousands): N/A		
(U) D. Schedule Profile FY 1995		
1 R Demos (F-15E/Surveillance) 75 Expert Missile Tracker	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	
Prototype (U) Intel Support Systems: ISC updates; X Syria, Iran, and Iraq, and automation of	×	
(U) TMD TACS systems requirements (TTDS message upgrades; decision aids)	×	
(U) Ops Concept Demonstrations	×	
••>		
P	Page 3 of 12 Pages	Exhibit R-2

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RDT&E BUDGET ITEM JUSTIFICATION	STIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0208060F Theater Missile Defense	
DOC LEGIT OF AND NAME		

4478 Command, Control, Communications, Computers, and Intelligence Enhancements

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
4478 Command, Control, Communications, Computers, and Intelligence Enhancements	12,691	12,059	13,374	26,713	27,086	27,534	28,672	0	Continuing

(U) A. Mission Description and Budget Item Justification

C4I enhancements are needed to reduce the battle management and command & control timelines associated with the theater missile threat. The C4I program

- 1) Operations and maintenance of the Tactical Air Command and Control Simulation Facility (TACCSF);
- 2) Procurement of four MCE/TPS-75 with expert missile tracker (EMT) capability;
- 3) Intel Support Systems which include the development and revision of the Intel Support Concept (ISC), automation of the country studies, and development of the Real Time Intel Tool for TMD IPB;
 - 4) JTIDS TMD Upgrades which are the development and integration of TMD messages into JTIDS host platforms and the extension of JTIDS beyond line of sight;
- development and migration of the Defensive Planning Module into TBMCS, and initiating the development of the Attack Operations and Active Defense Decision 5) Operations Decision Support Tools which include the integration of the Time Critical Target Aid into TBM Core Systems (TBMCS) architecture, the
- the capabilities of the current ground Combat Integration Capability (CIC) program which integrates and fuses various intelligence and surveillance feeds to provide timeline of time critical targets. This includes the development, integration and test of the DBM capability on an airborne platform. The program will leverage off 6) Distributed Battle Management (Airborne DBM prototype) concept, which enhances the forward execution capabilities of the TACS to counter the short the CINCs with an effective battle management capability.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICATIO	N SHEET (R-2 Exhibit		DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0208060F Thea	PE NUMBER AND TITLE 0208060F Theater Missile Defense	ile Defense	
PROJECT NO. AND NAME 4478 Command, Control, Communications, Computer		s, and Intelligence Enhancements	nents		
 (U) FY 1995 (\$\frac{\$}\$ in Thousands). (U) 5500 Supported Theater Air Command and Control Simulation Facility (TACCSF) operations for C4I simulation and analysis (U) 6600 Continued missile tracker software upgrade and integration for the MCE/TPS-75 (U) 661 Intel Support Systems - Drafted Intelligence Support Concept (ISC); completed Iran and started Iraq country study for IPB 	nd Control Simulati pgrade and integra lligence Support C	ion Facility (TAC ttion for the MCI oncept (ISC); cor	CSF) operations f 2/TPS-75 npleted Iran and s	Control Simulation Facility (TACCSF) operations for C4I simulation and analysis grade and integration for the MCE/TPS-75 gence Support Concept (ISC); completed Iran and started Iraq country study for IP	ınd analysis study for IPB
 (U) FY 1996 (\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\	ommand and Contracquisition for MCE sesses and tools for o CRC, Rivet Joint integration; start D	ol Simulation Fac 3/TPS-75 automatic produ 5, and Cobra Ball BM analysis and	ility (TACCSF) o	perations for C4I si TMD Intel Prep of t tension implementa	mulation and analysis he Battlefield (IPB) information. ttion; Development of TCTA and
 (U) 5884 Complete TACCSF operations support for C4I simulation and analysis (U) 5884 Complete TACCSF operations support for C4I simulation and analysis (U) 3300 Complete MCE/TPS-75 missile tracker capability with final delivery. (U) 1950 Intel Support Systems - Update ISC; Continue tool development for automatic production of digitized TMD IPB information. (U) 2240 TMD JTIDS message integration into JSTARS and AOC; Begin JTIDS Range Extension development; Complete development DPM and integrate in TBMCS; continue DBM analysis/design and start simulation. (U) 13374 Total 	ort for C4I simulati ker capability with Continue tool deve o JSTARS and AO inue DBM analysis	on and analysis final delivery. slopment for auto C; Begin JTIDS	matic production (Range Extension o simulation,	of digitized TMD II levelopment; Comp	t for C4I simulation and analysis r capability with final delivery. Sontinue tool development for automatic production of digitized TMD IPB information. JSTARS and AOC; Begin JTIDS Range Extension development; Complete development of TCTA and ue DBM analysis/design and start simulation.
(U) B. Program Change Summary (\$\sin \text{Thousands})					
(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Value	FY 1995 12691 12691	FY 1996 12590 12590	<u>FY 1997</u> 13690	Total <u>Cost</u> TBD TBD	
	Page	Page 5 of 12 Pages			Exhibit R-2



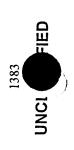




RDT&E BUDGET ITEM JUSTIF	ICATIO	N SHEET (TIFICATION SHEET (R-2 Exhibit)		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0208060F Thea	ve number AND TITLE 0208060F Theater Missile Defense	le Defense			
Computer	nd Intellige	s, and Intelligence Enhancements	nents				
2 Congressional General Reductions	FY 1995 0	FY 1996 -435	FY 1997	. Total <u>Cost</u>			
b. Small Business Innovative Research (SBIR) c. Omnibus or Other Above Threshold Reprogram	0	96-					
 d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/President's Budget 	12691	12059	-316 13374				
(U) Change Summary Explanation: Funding: FY97 funding reduced due to revised inflation.							
Schedule: No impact to milestones.							
Technical: N/A							
(U) C. Other Program Funding Summary (\$\sumsimes\) in Thousands): N/A	Y						
(U) D. Schedule Profile: See page 3.							

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R	RDT&E PROGRAM ELEMENT	3RAM EL		PROJECT COST BREAKDOWN (R-3)	COSTB	REAKD	OWN (R-	3)	DATE	March 4000	
BUDGET ACTIVITY 7 - Operation	וספבד אכדועודץ - Operational System Development	evelopme			PE NUMBER ANI 0208060F	PE NUMBER AND TITLE 0208060F Theat	ΣΤΤΙΕ Theater Missile Defense	Defense		Warch 1990	
PROJECT NO. AND NAME 4478 Communications, Computers, and Intelligence Enhancements	_{NAME} d, Control, Con	nmunication	is, Computer	s, and Intellig	ence Enha	ncements					
(U) A. Project Cost Breakdown (\$0 in Thousands)	ost Breakdown (\$0 in Thousa	(Spu	FY 1995		FY 1996	FY 1997				
 (U) TACCSF (U) Intelligence Support Systems (U) MCE/TPS-75 Missile Trackir (U) JTIDS TMD Upgrades & Ops (U) Total 	TACCSF Intelligence Support Systems MCE/TPS-75 Missile Tracking System JTIDS TMD Upgrades & Ops Decision Tools Total	System Decision Tools	_	5500 591 6600 0 12691		5200 650 3709 2500 12059	5884 1950 3300 2240 13374				
(U) B. Budget Acquisition History and Planning Information (So in Thousands)	cquisition Histor	y and Plannin	ig Information	ı (\$0 in Thousaı	(spu						
Performing Organizations:	nizations:										
Contractor or Government Performing Activity	Contract Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations Martin Marietta FFP Westinghouse FFP Zeltech T&M Logicon T&M E-Systems T&M Alphatech T&M NAIC T&M Motorola T&M	ent Organizations FFP FFP T&M T&M T&M T&M T&M T&M T&M	Oct 95 Oct 95 Dec 95 Mar 96 Mar 96 Feb 96 Nov 97		ACCDRA ESC/AVT ACC/INX ESC/XRS ESC/XRS ESC/XRS ESC/XRS	4300	4800 4600 250 0 . 0	4700 2069 250 500 631 500 479	5478 2750 250 500 615 500 400	081 081 081 081 081 081 081	087 087 087 087 087 087 087	
Support and Management Organizations FFRDC	cement Organizat	ions			840	765	1395	1331	TBD	TBD	
	ì			Page	Page 7 of 12 Pages	es			Exhibit R-3		





RDT&E	PRO(3RAM EI	EMENT/F	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST B	REAKDO	JWN (R-		DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	stem D	evelopme	 		PE NUMBER AND TITLE 0208060F Thea	AND TITLE	PE NUMBER AND TITLE O208060F Theater Missile Defense	Defense		
PROJECT NO. AND NAME 4478 Command, Control, Communications, Computers, and Intelligence Enhancements	trol, Con	nmunicatior	າs, Computer	's, and Intelliç	yence Enhar	ncements				
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle Non-FFRDC HQ ESC Test and Evaluation Organizations TBD	Contract Method/Type or Funding Vehicle Organizations	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1995 1200 710	Budget FY 1995 735 1541	Budget FY 1996 1035 0	Budget FY 1997 1050 0	Budget to Complete TBD 0	Total TBD 2251
				Pc	Page 8 of 12 Pages	səs			Exhibit R-3	2-3

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION S	HEET (R	2-2 Exhi	bit)		DATE	March 1996	98
BUDGET ACTIVITY 7 - Operational System Development		PE N 02(PE NUMBER AND TITLE 0208060F Theater Missile Defense	пте heater M	lissile De	fense			
PROJECT NO. AND NAME 4479 Attack Operations Concept Development									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost

(U) A. Mission Description and Budget Item Justification

4479 Attack Operations Concept Development

Improvements in Attack Operations are based on the ability to locate, identify, and destroy theater missiles and associated infrastructure on the ground. In addition to the enhancements to C41, Attack Operations project focuses on sensor capabilities and CONOPS and requirements development for TMD offensive counter-air and optimized integration with defensive systems. Automatic target cueing/recognition (ATC/R) upgrades to Joint STARS, F-15E, and potentially U-2, F-16 and UAVs are analyzed in demonstrations and simulation during Operational Concept Demonstrations and CINC experiments. A cost and operational effectiveness analysis of the Airborne Laser will be conducted in FY96, and its contribution to post-launch attack operations will be considered. The optimum set of sensor improvements will be proposed as P31 upgrades within existing program elements.

Continuing

TBD

20,024

19,229

18,627

18,421

8,911

12,171

13,524

(U) FY 1995 (\$ in Thousands);

Conducted prototype development of surveillance ATR.	Conducted Operational Concept Demonstrations with Roving Sands exercise.	
\$4800	\$2598	
9	9	
I	İ	

Continued analysis of Attack Operations Sensor improvements. \$3171

Conducted prototype development of F-15E ATC/R demonstration. \$2955 3

Total (U) \$13524

FY 1996 (\$ in Thousands):

Prototype analysis of surveillance ATR demonstration. (U) \$500

Conduct Operational Concept Demonstration with participation in CINC experiments. \$900

Continue requirements definition and analysis of sensor prototypes and Attack Operations improvements \$2604

Conduct definition studies and analysis on Airborne Laser \$3282 3

F-15E ATC/R demonstration. \$4885

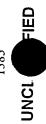
\$12171

FY 1997 (\$ in Thousands): 5,

Conduct demonstration of surveillance ATR prototype. (U) \$1190

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (I	R-2 Exhibit)	DATE March 1996
ВUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0208060F Thea	PENUMBER AND TITLE O208060F Theater Missile Defense	se
PROJECT NO. AND NAME 4479 Attack Operations Concept Development			
 (U) \$3511 Conduct Attack Operations Operational Concept Demonstration. (U) \$2010 Continue Analysis of Sensor prototypes and Attack Operations demonstrations/simulations. (U) \$2200 Conduct demonstration of F-15E ATC/R prototype. (U) \$8911 Total 	nonstration. perations demonsti	ations/simulations.	
(U) B. Program Change Summary (S in Thousands)			
		Total	
(U) FY 1996 President's Budget 13524	FY 1996 12512	<u>FY 1997</u> Cost 9182 TBD	
(U) Appropriated Value	12512	TBD	
a. Congressional General Reductions	-245		
b. SBIRc. Omnibus or Other Above Threshold Reprogram	96-		
d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/FY 1997 President's Budget	12171	-271 8911	
(U) Change Summary Explanation: Funding: FY97 funding reduced due to revised inflation.			
Schedule: No impact to milestones.			
Technical: N/A			

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(U) D. Schedule Profile: See page 3.

2	RDT&E PROGRAM ELEMENT/PROJECT	GRAM E	LEMENT	PROJECT	COSTB	REAKD(COST BREAKDOWN (R-3)	3)	DATE	March 1006	
BUDGET ACTIVITY 7 - Operation	вирдет астилту 7 - Operational System Development)evelopme	int		PE NUMBER ANI 0208060F	PE NUMBER AND TITLE 0208060F Theat	ο τιτιε Theater Missile Defense	Defense			
PROJECT NO. AND NAME 4479 Attack Operati	PROJECT NO. AND NAME 4479 Attack Operations Concept Development	cept Develor	oment								
(U) A. Project Cost Breakdown (\$ in Thousands)	Cost Breakdown	(\$ in Thousar	(spi								
				FY 1995		FY 1996	FY 1997				
 (U) Definition Studies/Analysis Airborne Laser (U) Joint STARS ATR Demonstration (U) Operational Concept Demonstration (U) Sensor Applications 	udies/Analysis Ai ATR Demonstrat Concept Demonstrates	rborne Laser iion ation		0 4800 2598 3171	008-	3282 500 900	0 1190 3511				
(U) F-15 ATR Demonstrations (U) Total	monstrations			21/12 2955 13524		2004 4885 12171	2010 2200 8911				
(U) B. Budget Acquisition History and Planning Information	lequisition Histo	ry and Planni	ng Informatio	n (\$ in Thousands)	<u>(ds)</u>						
Performing Organizations:	anizations:										
Contractor or Government Performing	Contract Method/Type or Funding	Award or Obligation	Performing Activity	Project Office	Total Prior to	Budget	Budget	Budget	Budget to	Total	
Product Develorm	veincie	<u>Date</u>	EAC	EAC	FY 1995	FY 1995	FY 1996	FY 1997	Complete	Program	
Boeing F3361594 C1436	F3361594 C1436	4ug 94		HQ/ASC	391	781	0 -	0	ТВД	TBD	
Hughes	F3361594D1 4000004	Aug 94		HQ/ASC	200	484	2772	700	TBD	TBD	
Geometric	F3361594C1 441	Mar 95		HQ/ASC	0	99	0	0	TBD	TBD	
Hughes-FD	F3361594D1 420000004	Mar 95		HQ/ASC	0	750	2200	0	TBD	TBD	
				Раде	Page 11 of 12 Pages	ies.			Exhibit R-3	က္	
									LAIIDIL I		7





	RDT&F PROGRAM ELEMENT/P	RAM EL	EMENT/P	ROJECT	COST BI	REAKDO	COST BREAKDOWN (R-3)		DATE	March 1996	
BUDGET ACTIVITY 7 Occapional System Development	Svetem D	nemooleye	<u>+</u>		PE NUMBER AND TITLE 0208060F Thea	AND TITLE Theate	Theater Missile Defense	Defense			
PROJECT NO. AND NAME 4479 Attack Operations Concept Development	AME erations Conc	ept Developr	nent								
Contractor or Government Performing Activity Norden	Contract Method/Type or Funding Vehicle F3361592C1	Award or Obligation <u>Date</u> Sep 94	Performing Activity <u>EAC</u>	Project Office <u>EAC</u> HQ/ASC	Total Prior to FY 1995 490	Budget <u>FY 1995</u> 50	Budget <u>FY 1996</u> 0	Budget FY 1997 0	Budget to Complete TBD	Total <u>Program</u> TBD	
Veda	045 F3361594D1	Feb 95		HQ/ASC	0	200	400	0	TBD	TBD	
Lincoln Lab Sverdrup	4000000 AF FM 616 F3361594C1	Mar 95 Mar 95		HQ/ASC HQ/ASC	0 0	100 556	35	0 0	TBD	TBD CBT	
HSC/AL Sandia Nat Labs Lockheed Martin	425 AF FM 616 MIPR AF FM 616	Aug 94 Mar 95 TBD		HQ/ASC HQ/ASC HQ/ASC	975 3786 0	1495 4800 0	715 500 0	985 1190 1518	TBD CBT CBT	TBD TBD TBD	
Support and Management Organizations FFRDC Non-FFRDC HQ ASC	gement Organiz	ations		HQ/ASC HQ/ASC	400 191 0	357 280 561	82 0 4332	648 355 2515	CET CET CET	1380 1380 1381	
Test and Evaluation Organizations 28 Test/TXT AFSAA AF AF FM 616 Eglin-46 Test Wing	on Organizations AF FM 616	Mar 95 Feb 95 May 94		HQ/ACC HQ/ACC HQ/ASC	16 0 2051	0 350 3245	900 85 150	0 0 1000	TBD TBD TBD	TBD TBD TBD	
				P_{ℓ}	Page 12 of 12 Pages	ages			Exhibit R-3	R-3	

RDT&E BUDGET ITEM JUS		TION S	FIFICATION SHEET (R-2 Exhibit)	R-2 Exhi	bit)		DATE	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development		PE N 03(PE NUMBER AND TITLE 0303110F Def S	TITLE Def SateⅡ	DE NUMBER AND TITLE 0303110F Def Satellite Comm Svs (Space)	n Svs (Sr	1		
PROJECT NO. AND NAME 2638 Defense Satellite Communications Sys							(5)		
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost

(U) A. Mission Description and Budget Item Justification

2638 Defense Satellite Communications Sys

plus satellites awaiting launch as a part of the operational system. Any enhancements to the satellites not yet launched will be sole source contract awards. Efforts This program is in budget activity 7 - Operational System Development because DSCS is a production system consisting of a fully operational satellite constellation support fielded system, therefore, funding is appropriately in Operational Systems Development of Budget Activity Research Category.

621,312

10,000

6,249

6,412

6,130

10,239

24,527

31,077

14,187

DSCS is the backbone of the Government's satellite communications system, providing both secure voice and high data rate transmissions. DSCS provides unique and vital national security communications for worldwide military command and control, crisis management, relay of intelligence and early warning data, treaty Worldwide Military Command and Control System, Diplomatic Telecommunications Service, White House Communications Agency, the Navy, the Air Force monitoring and surveillance information, and diplomatic traffic. The communications relayed through DSCS support the National Command Authorities, Satellite Control Network, and ground mobile forces of all services.

(U) FY 1995 (\$ in Thousands);

Johnson	Continued DSCS mission support activities	- Supported program office operations	 Conducted programmatic tradeoffs and analyses 	- Paid performance incentives for development satellites that were still on orbit and operational	Conducted Service Life Extension Program (SLEP) risk reduction implementation study	Investigated and developed other DSCS III performance enhancements	- Upgraded GTS software to support operator training for current satellite configuration	Identified for approved ATR and BTR reprogrammings	Total	
Toning of the state of the stat	(U) \$3,087				(U) \$5,000	(U) \$600		(U) \$5,500	(U) \$14,187	
\ _ /	ı				1	i		1	i	

Page 1 of 6 Pages





RDT&E BUDGET ITEM JUSTIFICATION SHI	TIFICATION SHEET (R-2 Exhibit) DATE March 1996
вировет астіліту 7 - Operational System Development	PE NUMBER AND TITLE 0303110F Def Satellite Comm Sys (Space)
PROJECT NO. AND NAME 2638 Defense Satellite Communications Sys	
(U) FY 1996 (\$ in Thousands):	
- (U) \$3,477 - Support program office operations - Conduct programmatic tradeoffs and analyses	
- Pay performance incentives for devel	still on-orbit and operational
- (U) \$23,700 Start Series incomments of a first of the f	incition
- (U) \$1,900 Investigate and develop other DSCS III performance enhancements - Develop low noise amplifier (LNA) upgrade to enhance performance and increase capacity for tactical users	tents rmance and increase capacity for tactical users
- Develop B6 satellite bandwidth modification to increase capacity level to that of satellites B8 - B14 - (U) \$31,077 Total	city level to that of satellites B8 - B14
(T) EV 1007 (© in Thomsande):	
(U) \$5,527 Continue DSCS mission support activities - (U) \$5,527 Continue DSCS mission support activities - Support program office operations	
- Conduct programmatic tradeoffs and analyses - Pay nerformance incentives for development satellites that are still on-orbit and operational	e still on-orbit and operational
- (U) \$18,300 Continue SLEP modification - Complete system CDR	
0000	
- (U) \$100 - Continue to develop LNA upgrade to enhance performance and increase capacity for tactical users	nd increase capacity for tactical users
- Continue development of do saternie bandwidth to increase capacity level to that of saternies do - d 14 - (U) \$24,527 Total	apacity level to that of satemites do - d t+
Page 2 of 6 Pages	5 Pages

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FION SHEET (DATE March 1996	
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0303110F Def S	PE NUMBER AND TITLE 0303110F Def Satellite Comm Sys (Space)	ace)	
PROJECT NO. AND NAME 2638 Defense Satellite Communications Sys				
(U) B. Program Change Summary (S in Thousands)				
Ħ	FY 1996	FY 1997		
(U) Previous President's Budget	7 32,555	26,693		
(U) Appropriated Value 14,876	2			
(U) Adjustments to Appropriated Value				
a. Cong Gen Reductions				
b. SBIR -306	5 -707			
c. Omnibus or Other Above Threshold Reprogram (-5,500)				
d. Below Threshold Reprogramming	-			
(U) Adjustments to Budget Years Since FY 1996 PB		-2,166		
(U) Current Budget Submit/President's Budget 14,187*	31,007	24,527		
(U) Change Summary Explanation: Funding: * \$5.0 million of DSCS FY95 RDT&E was reprogrammed for use in the Combat Survivor/Evader Locator (CSEL) Program through a Congressionally	for use in the Comba	at Survivor/Evader Locator (CSEL) Pros	ram thronoh a Conoressional	

approved Above Threshold Reprogramming that is not reflected in the FY95 amounts above. A BTR for an additional \$0.5 million reduction in FY95 funding is currently being processed which is not reflected in the amounts above.

\$2.166 million reductions in FY97 include: AFMC reductions (\$0.133 million), SETA and FFRDC reductions (\$1.000 million), and overhead reductions (\$1.033 million).

include: upgrade channels 1-6 of the last four satellites with 50 watt traveling wave tube amplifiers, upgrade solar cells, refine gain step attenuation, Technical: Based on the Space Architect's recommendation, SLEP is being restructured to include performance enhancements. The primary modifications and incorporate a routing switch mod that allows channel 5 and/or 6 to be configured to either the gimbal dish antenna or multi-beam antenna.

The new SLEP program will increase the overall system capacity by up to 200% and tactical warfighter capacity by up to 700%.

Page 3 of 6 Pages

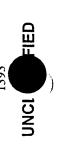






RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	R JUST	TFICAT	HS NOI.	EET (R-	2 Exhib	it)		рате М а	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	·		PE NU 030;	PE NUMBER AND TITLE 0303110F Def S	⊓LE sf Satellií	e Comm	Def Satellite Comm Sys (Space)			
PROJECT NO. AND NAME 2638 Defense Satellite Communications Sys										
(U) C. Other Program Funding Summary (\$ in Thousands)	'housands)							[
(U) Weapon Procurement * Tracked back to FY76.	FY 1995 18,007	FY 1996 19,771	FY 1997 26,929	FY 1998 73,106	FY 1999 25,699	FY 2000 28,295	FY 2001 25,033	To Compl 101,500	Total <u>Cost</u> * 1,614,640	
(U) D. Schedule Profile										
1 (U) Launch DSCS/IABS 5 (Jul 95) (U) Launch DSCS/IABS 6 (Oct 97)	FY 1995 2 3	4 *	1 2 四 2	FY 1996 2 3	. 4	FY 1997 2 3	3 4			
	¥		*							
(b) SLEP Modification Program (Mar 96			× 			i i i i	! ! !			
- Aug 00) (U) SLEP PDR (Jul 96) (U) SLEP CDR (Dec 96) (U) GTS Upgrade Completion (Oct 96)	;			×	××	÷				
•			Page 4 of 6 Pages	Pages				Exhibit R-2	0.1	

RDT&	E PRO	RDT&E PROGRAM ELEMENT/	EMENT/F	PROJECT	1	COST BREAKDOWN (R-3)	WN (R-3		DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	ystem Do	evelopmen	īt		PE NUMBER ANI 0303110F		Def Satellite Comm Sys (Space)	nm Sys (S	pace)	
PROJECT NO. AND NAME 2638 Defense Satellite Communications Sys	lite Comm	unications S	ys							
(U) A. Project Cost Breakdown (\$ in Thousands)	reakdown (S in Thousand	<u>is)</u>	FY 1995		FY 1996	FY 1997			
 (U) Basic Program Activities (U) SLEP Implementation Study (U) SLEP. (U) Performance Enhancements (U) Identified for approved ATR and BTR reprogrammings (U) Total 	ivities ion Study ncements wed ATR an	id BTR reprog	rammings	3,087 5,000 0 600 5,500		5,477 0 23,700 1,900	5,527 0 18,300 700 24,527			
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	ition Histor	y and Plannin	ng Information	ı (\$ in Thousan	(sp ı					
Performing Organizations: Contractor or Contrac Government Method Performing or Fund Activity Vehicle	zations: Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>BAC</u>	Total Prior to FY 1995	Budget <u>FY 1995</u>	Budget <u>FY 1996</u>	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Product Development Organizations Lockheed Martin FFP/AF Miscellaneous Various Miscellaneous Omnibus	nt Organizations FFP/AF Various Omnibus	S Oct 84 Various	437,500 N/A	437,500 N/A	370,900 123,691	5,700 1,287 5,500	28,877 0	22,127 0	20,430	448,034 124,978 5,500
Support and Management Organizations Aerospace Corp PO Var Miscellaneous Various Var	ment Organizat PO Various	tions Various Various	N/A N/A	N/A N/A	11,200 6,700	700	1,000	1,000	5,100 13,500	19,000 23,800
Test and Evaluation Organizations None	ganizations					·				
* Tracked back to FY86. All other prior year funds included in the Miscellaneous line for Product Development Organizations.	All other p	rior year fund	s included in th	te Miscellaneou $_{P_{\mathcal{A}}}$	cous line for Produ	oduct Developi	nent Organiza	tions.	П С — с :	9
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BRE	AKDOW	'N (R-3)		DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0303110F Def S	Def Satellite Comm Sys (Space)	lite Comn	n Sys (Sp	oace)	
PROJECT NO. AND NAME 2638 Defense Satellite Communications Sys						
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	in Thousands)					
Government Furnished Property:						
Contract Method/Type Award or Item or Funding Obligation Delivery Vehicle Date	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Product Development Property N/A						
Support and Management Property N/A						
Test and Evaluation Property N/A						
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	494,591 17,900	28,877 2,200	22,127 2,400		20,430 18,600	578,512 42,800
Total Project	512,491	31,077	24,527		39,030	621,312
	Page 6 of 6 Pages				Exhibit R-3	R-3

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)
FY 1995 Actual

NOTE: Project 4521, DIRECT, was established in Jan 96 to consolidate efforts related to DIRECT currently being or planned for accomplishment in PE 0603851F, ICBM Minuteman Squadrons, and 0303131F, MEECN (Project 2832, VLF/LF System Improvements). FY95 and FY96 DIRECT efforts are reported under Project 2832, Modernization Dem/Val (Project 1024 ICBM C2 Applications), PE 0604851F, ICBM Modernization EMD (Project 13C4, Strategic C4 Program), PE 0101213F, VLF/LF System Improvements, in this PE.

11,413

TBD

180

264,346

Continuing

Continuing

1,998

1,969

1,914

11,334

10,489

14,895

28,381

280

Continuing

Continuing

1,998

1,969

1,914

11,334

21,902

14,895

28,661

Total Program Element (PE) Cost

Dual Frequency MEECN Receiver

2834

DIRECT

VLF/LF System Improvements

2832

(U) A. Mission Description and Budget Item Justification

(U) MEECN communications systems provide assured communications connectivity between the National Command Authority (NCA) and the strategic deterrence VLF/LF improvement projects. The VLF/LF projects include the Modified Miniature Receive Terminal (MMRT), the High Data Rate (HIDAR) transmission mode, and the Defense IEMATS Replacement Command and Control Terminals (DIRECT) which is the Improved Emergency Message Automated Transmission System (IEMATS) replacement program. This PE is identified in Budget Activity 7, an operational system development, because it supports work on a currently operating forces primarily in the Very Low Frequency (VLF) and Low Frequency (LF) bands. MEECN includes the Dual Frequency MEECN Receiver (DFMR) and several system.

(U) Acquisition Strategy:

- Charge and Move Out (TACAMO); and the ICBM Launch Control Centers (LCCs). Award production contract is planned for FY00. Complete deployment of both agency. Modify existing Miniature Receive Terminals (MRT) beginning with an engineering and manufacturing development (EMD) program. Competitively award the EMD contract in FY96 (with Milestone II in 3QtrFY96) for all three platforms: the E-4B National Airborne Operations Center (NAOC); E-6B Take (U) Satisfy both the Air Force and Navy requirements via a joint interest effort with the Air Force Electronics Systems Center, Hanscom AFB, MA as the lead Air Force and Navy MMRT units by 2003.
- (U) A Milestone 0 Acquisition Decision Memorandum (ADM) for DIRECT was signed on 26 Jul 95. Contract award is expected in July 96.

Page 1 of 16 Pages







RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R	-2 Exhib	t) DATE March 1996	9
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0303131F Minit	ritle Ninimum E	PE NUMBER AND TITLE 0303131F Minimum Essential Emer Comm Network (MEECN)	ECN)
(U) B. Program Change Summary (\$ in Thousands)			Total	
(U) Previous President's Budget 33,803 (U) Appropriated Value 34,195	FY 1996* 15,777 15,777	FY 1997 12,937	<u>Cost</u> Continuing	
(U) Adjustments to Appropriated Value a. Congressional/General b. SBIR -713	-309 -355			· · · · · · · · · · · · · · · · · · ·
c. Below 1 meshold Keploglanding d. Omnibus and other Above Threshold (U) Adjustments to Budget Years Since FY96 PB (U) Current Budget Submit/President's Budget	-218	8,965 21,902	Continuing	
(U) Change Summary Explanation:				
Funding: See individual projects. * The FY96 PB amount does not reflect funding reductions that are reserved for other DoD reprogramming needs (\$165)	hat are reserved for	other DoD rep	ogramming needs (\$165)	
Schedule: See individual projects.				
Technical: See individual projects.				
P	Page 2 of 16 Pages		Exhibit R-2	
	1396			

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ITEM J	USTIFIC	ATION	SHEET	(R-2 Ex	hibit)		DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	ent		<u>a</u> 0	PE NUMBER AND TITLE 0303131F Minir	ND TITLE MINIMU	m Esser	itial Emer	Comm	ΣΤΙΤΕΕ Minimum Essential Emer Comm Network (MEECN)
(U) C. Other Program Funding Summary (\$ in Thousands)	in Thousan	(sp				•			
(U) Appropriation 3020, BA 03 Minuteman Modifications	FY 1995 0	FY 1996 0	FY 1997 0	FY 1998 0	FY 1999 0	FY 2000 0	FY 2001 0	To Compl 0	Total $\frac{\text{Cost}}{52,400}$
(U) Appròpriation 3010, BA 5 E-4B Class V Mods	21,400	0	0	10,300	200	1,500	0	0	33,700
(U) Appropriation 3600 ICBM Modernization EMD (MMRT)	0	0	2,817	TBD	TBD	TBD	TBD	TBD	TBD
(CBM Modernization Dem/Val (DIRECT) (PE 0603851F)	0	0	934	0	0	0	0	0	0
(U) D. Schedule Profile: See individual projects.	cts.								
į			Page 3	Page 3 of 16 Dage				1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	c n

1397 UNCL FIED



	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	FION SE	HEET (R	-2 Exhib	oit)		DATE M	March 1996	9
BUDGET ACTIVITY 7 - Operationa	вирдет астіvіту 7 - Operational System Development		PE NU 030	PE NUMBER AND TITLE 0303131F Mini	ITLE Inimum	Essentia	Emer C	omm Net	אוזורנב Minimum Essential Emer Comm Network (MEECN)	ECN)
PROJECT NO. AND NAME 2832 VLF/LF Syster	ROJECT NO. AND NAME 2832 VLF/LF System Improvements									
	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
2832 VLF/LF System	VLF/LF System Improvements	28,381	14,895	10,489	11,334	1,914	1,969	1,998	Continuing	Continuing
(U) A. Mission De	A. Mission Description and Budget Item Justification							= =		
(U) The Modi National Airbc Rate (HIDAR) This program	(U) The Modified Miniature Receive Terminal (MMRT) program will modify existing Modified Receive Terminals (MRTs) for installation in three platforms: The National Airborne Operations Center (NAOC), E-4B; E-6B, Take Charge and Move Out (TACAMO); and, ICBM Launch Control Centers (LCC) with the High Data Rate (HIDAR) capability. MRT is a Very Low Frequency/Low Frequency (VLF/LF) receiver already designed, developed and installed in the B-1 and B-52 bombers. This program will make VLF/LF receivers fully interoperable in all three platforms.	program will modify existing Modified Receive Terminals (MRTs) for installation in three platforms: The 5B, Take Charge and Move Out (TACAMO); and, ICBM Launch Control Centers (LCC) with the High Dat //Low Frequency (VLF/LF) receiver already designed, developed and installed in the B-1 and B-52 bombers able in all three platforms.	modify exisrge and Movacy (VLF/LF	ting Modifie re Out (TAC r) receiver al s.	d Receive T AMO); and, Iready design	erminals (M ICBM Lau ıed, develop	RTs) for ins 1ch Control ed and insta	tallation in t Centers (LC lled in the B	three platfor C) with the] -1 and B-52	ns: The High Data bombers.
(U) HIDAR i current MEEC	(U) HIDAR is a Joint Staff-directed effort to provide a fast and interoperable MEECN mode. This program will develop and test modifications required to retrofit current MEECN platforms with the HIDAR software and firmware.	ast and interol firmware.	perable MEE	3CN mode.	This prograı	n will devel	op and test r	nodifications	s required to	retrofit
(U) The Impr Command and and the Nation Messages (EA) supplants the a	(U) The Improved Emergency Message Automated Transmission System (IEMATS) replacement system, which has been named Defense IEMATS Replacement Command and Control Terminal (DIRECT), is a Strategic Nuclear Command and Control (C2) system directly supporting the Chairman, Joint Chief of Staff (CJCS) and the National Command Authorities (NCA). DIRECT will provide all current IEMATS requirements, including the build and release of Emergency Action Messages (EAM) to allow the warfighter to remain responsive to NCA directives. DIRECT will be compatible with the Defense Message System (DMS) when it supplants the automated digital network (AUTODIN).	mission Syst : Nuclear Co will provide sive to NCA	em (IEMAT mmand and all current l directives.	S) replacem Control (C2 EMATS rec DIRECT wi	ent system, v) system dire luirements, i Il be compat	which has be setly support ncluding the lble with the	ing the Cha ing the Cha build and r Defense Ma	efense IEM. irman, Joint elease of En essage Syste	ATS Replace Chief of Sta nergency Act m (DMS) wh	ment ff (CJCS) ion ten it
(U) High Pow transmission c	(U) High Power Transmit Set (HPTS) was a joint Air Force and Navy program to provide the E-4 and the E-6 aircraft with an improved and supportable VLF transmission capability. HPTS completed development phase in 2QtrFY95.	ce and Navy lase in 2QtrF	program to y Y95.	provide the l	E-4 and the]	E-6 aircraft	with an imp	roved and su	pportable V	Ιτ
(U) <u>FY 1995</u>										
- (U) \$2,200 - (U) \$17,043 - (U) \$1,100 - (U) \$2,500 - (U) \$4,200 - (U) \$1,238 - (U) \$1,238 - (U) \$28,381	HIDAR firmware and software development. MMRT modification. Survivable Low Frequency Communication System (SLFCS) re-engineering. IEMATS Replacement (i.e., DIRECT) Prototyping. DFMR termination liability. Contract termination for HPTS at convenience of the US Government Mission Support	nt. n System (SI totyping. nce of the U	JFCS) re-eng S Governme	gineering. ant						

Page 4 of 16 Pages

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-2 Exhik	oit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0303131F Minir	TITLE Minimum I	Essential Emer C	PENUMBER AND TITLE 0303131F Minimum Essential Emer Comm Network (MEECN)
PROJECT NO. AND NAME 2832 VLF/LF System Improvements				
(U) FY 1996				
 (U) \$9,719 MMRT modification (A and B-Kits) for E-4B and E-6B, and HIDAR. (U) \$1,400 MMRT modification (A-Kit) and integration for the LCCs. (U) \$3,776 IEMATS replacement (i.e., DIRECT). (U) \$14,895 Total 	nd HIDAR.			
(U) <u>FY 1997</u>				
- (U) \$10,489 Continue MMRT development - (U) \$10,489 Total				
(U) B. Program Change Summary (\$ in Thousands)			E-	
(U) Previous President's Budget	FY 1996	FY 1997	Continuing	
Appropriated Value	15,777	16,731	Continuing	
(U) Adjustments to Appropriated Value				
a. Congressional Ceneral b. SBR -713	-309			
c. Below Threshold Reprogramming d. Omnibus and other Above Threshold	2.2.			
6 PB jet	14,895	-2,448 10,489	Continuing	
(U) Change Summary Explanation:)	

Funding: MMRT modification and integration into ICBM LCCs FY97 funding (\$1,937) transferred to ICBM Modernization EMD Program (PE 0603851F), Strategic C4 Program (Project # 13C4). Other reductions are the result of general overhead reduction (-\$64) and inflation adjustments (-\$447).

Schedule: No significant impact.

Technical: Air Force will modify excess MRTs to include HIDAR for installation in the E-4B NAOC, E-6B TACAMO, and ICBM LCCs.

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RDT&E BUDGET ITE	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0303131F Minir	AND TITLE F Minimum Essential Emer Comm Network (MEECN)	nm Network (MEECN)
PROJECT NO. AND NAME 2832 VLF/LF System Improvements			
(U) C. Other Program Funding Summary (\$ in Thousands)	usands)		
(U) Appropriation 3010, BA 5 R-4B Class V Mods	FY 1995 FY 1996 FY 1997 FY 1 21,400 0 0 10,	FY 1998 FY 1999 FY 2000 FY 2001 10,300 500 1,500 0	To Total <u>Compl</u> <u>Cost</u> 0 33,700
(U) Appropriation 3600 ICBM Modernization EMD (PE 0604851F)	0 0 2,817 7	TBD TBD TBD	TBD TBD
(U) D. Schedule Profile			
(U) HPTS EMD Completion (U) MMRT RFP Release (U) MMRT EMD (U) MMRT EMD Completion (U) DIRECT Contract Award * Complete	FY 1995 2 3 4 1 2 3 X* X* X* X*	$\frac{16}{3}$ 4 1 $\frac{FY 1997}{2}$ 4 X $\frac{X}{X}$ FY00	
	Page 6 of 16 Pages		Exhibit R-2

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	/PROJECT CO	ST BREAK	DOWN (R-3)	DATE March 1006
BUDGET ACTIVITY 7 - Operational System Development	PE 0	PE NUMBER AND TITLE 0303131F Minii	E imum Essential Em	DE NUMBER AND TITLE 0303131F Minimum Essential Emer Comm Network (MEECN)
PROJECT NO. AND NAME 2832 VLF/LF System improvements				
(U) A. Project Cost Breakdown (S in Thousands)			ĝ.	
	FY 1995	FY 1996	FY 1997	
(U) Primary Hardware Development	6,253	9,418	8,847	
(U) Software Development	3,690	1,500	311	
	2,785	1,107	425	
(U) Developmental Support Systems Acquisition (U) Integrated Logistics Support	1,668 1.442			
	517			
(U) Developmental Test and Evaluation		725		
	2,489	445	379	
(U) Government Engineering Support	2,022	875	425	,
(U) Program Management Support	4,406			
(U) Travel	346	375	102	
(U) Miscellaneous	2,763	450		
(U) Total	28,381	14,895	10,489	
	Dana 7	Daga 7 of 16 Dages		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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RDT&E	RDT&E PROGRAM ELEMENT	M EL	EMENT/	I/PROJECT COST BREAKDOWN (R-3)	COSTB	REAKD(JWN (R-:	3)	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	tem Devel	opmen	ţ		PE NUMBER ANI 0303131F	PE NUMBER AND TITLE 0303131F Minim	um Essen	itial Emer	Comm Ne	DTITLE Minimum Essential Emer Comm Network (MEECN)	CN)
PROJECT NO. AND NAME 2832 VLF/LF System Improvements	nprovement	s,						:			
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	n History and	l Plannin	g Informatio	n (\$ in Thousa	(spu						
Performing Organizations:											
Contractor or Contract Government Method/Tyl Performing or Funding Activity Vehicle	90	d or ation	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations Rockwell CPAF Various Various TBD		Aug 92 Various	13,500 N/A	13,500 N/A	13,300 N/A	0 28,381 0	0 0 14,895	0 0 10,489	0 0 Cont	13,300 28,381 Cont	
Support and Management Organizations Not Applicable	<u> Drganizations</u>										
Test and Evaluation Organizations Not Applicable	zations										
Government Furnished Property: Not Applicable	operty: Not A	Applicable	0								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	ent gement n			-	13,300 0 0	28,381 0 0	14,895 0 0	10,489 0 0	Cont 0	Cont 0	
Total Project					13,300	28,381	14,895	10,489	Cont	Cont	
				$P_{\mathcal{C}}$	Page 8 of 16 Pages	ses			Exhibit R-3	₹-3	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION SI	HEET (F	8-2 Exhit	oit)		DATE M	March 1996	9
вирсет Астіуітү 7 - Operational System Development		PE NI 030	PE NUMBER AND TITLE 0303131F Minit	אוחודום Minimum Essential Emer Comm Network (MEECN)	Ssential	Emer C	omm Net	twork (MI	EECN)
PROJECT NO. AND NAME 2834 Dual Frequency MEECN Receiver									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
2834 Dual Frequency MEECN Receiver	280	0	0	0	0	0	0	0	264,346
(U) A. Mission Description and Budget Item Justification									
(U) Dual Frequency MEECN Receiver (DFMR), which was to provide a protected strategic communications link to Minuteman Launch Control Centers (LCC) and bomber dispersal bases, was terminated for the convenience of the US Government on 1 April 1994.	as to provide ce of the US (a protected	strategic co on 1 April	mmunication 1994.	s link to Min	iuteman La	unch Contro	ol Centers (L	CC) and
(U) <u>FY 1995</u>									
- (U) \$280 Contract termination for DFMR for convenience of the US Government. - (U) \$280 Total	nience of the	US Governr	ment.						
(U) FY 1996 - Not applicable.									
(U) FY 1997 - Not applicable.									
(U) B. Program Change Summary (S in Thousands)									
(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Value	FY 1995 280 280		FY 1996 0	FY 1997 0	Total <u>Cost</u> 264,346	7 H 9			
a. Congressional/General Reductions (U) Current Budget Submit/President's Budget	280	0	0	0	264,346	G			



Page 9 of 16 Pages



NOTINE BODGET TEM JOSTIFICATION SHEET (R-Z EXHIBIT)	March 1996
ystem Development	PE NUMBER AND TITLE 0303131F Minimum Essential Emer Comm Network (MEECN)
PROJECT NO. AND NAME 2834 Dual Frequency MEECN Receiver	
(U) Change Summary Explanation:	
Funding: Not applicable	
Schedule: Not applicable	
Technical: Not applicable	
(U) C. Other Program Funding Summary (\$ in Thousands)	
(U) Appropriation 3020, BA 03 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	FY 200
PY 1996	
(U) Complete termination of DFMR	2 3 4
Page 10 of 16 Pages	Exhibit R-2

RD	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	3RAM EL	EMENT/F	ROJECT	COSTB	REAKDO	JWN (R-	3)	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	al System D	evelopme	nt		PE NUMBER 030313	PE NUMBER AND TITLE 0303131F Minim	um Essen	ıtial Emer	Comm Ne	PE NUMBER AND TITLE 0303131F Minimum Essential Emer Comm Network (MEECN)
PROJECT NO. AND NAME 2834 Dual Frequency MEECN Receiver	IAME uency MEECN	Receiver								
(U) A. Project Cost Breakdown (S in Thousands)	st Breakdown	(\$ in Thousan	(sp		:					
				FY 1995		FY 1996	FY 1997			
(U) Contractor Engineering Support (U) Travel	gineering Suppo	Ħ			245 35	0	0			
(U) Total				28	280	0	0			
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	quisition Histor	ry and Planni	ng Informatio	n (\$ in Thousa	(spu					
Performing Organizations:	iizations:									
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Product Development Organizations Westinghouse FPI GTE FFP	ent Organization: FPI FFP	<u>s</u> Sep 89 Oct 83	37,475 235,500	39,901 235,500	28,100 235,500	00	0	0 0	0	28,100 235,500
Support and Management Organizations Other Engineering Outport	gement Organiza	ttions Oct 93	1,592	1,592	466	280	0	0	0	1,592
Test and Evaluation Organizations Not applicable	n Organizations									
				Q	Days 11 of 16 Days	5			ָה פַּם	ç
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RDT&E PF	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	LEMENT/	PROJECT	r COST B	REAKD(JWN (R-	3)	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	n Developme	int		PE NUMBER 030313	PE NUMBER AND TITLE 0303131F Minim	um Esser	ıtial Eme	. Comm No	PE NUMBER AND TITLE 0303131F Minimum Essential Emer Comm Network (MEECN)
PROJECT NO. AND NAME 2834 Dual Frequency MEECN Receiver	ECN Receiver					:			
Government Furnished Property: Not applicable	erty: Not applica	ble				,			
Contractor or Contract Government Method/Type Performing or Funding Activity	ype Award or g Obligation Date	Performing Activity	Project Office FAC	Total Prior to	Budget FV 1005	Budget FV 1006	Budget	Budget to	Total
Product Dev Support and Test and Ev				263,600	280	0001	1661 1.1		263,600 1,592
Total Project				264,066	280				264,346
			•						
			Pc	Page 12 of 16 Pages	ges			Exhibit R-3	R-3

0303131F Minimum Essential Emer Comm Network (MEECN) **March 1996** DATE RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 7 - Operational System Development PROJECT NO. AND NAME BUDGET ACTIVITY 4521 DIRECT

Minuteman Squadrons, and 0303131F, MEECN (Project 2832, VLF/LF System Improvements). FY95 and FY96 DIRECT efforts are reported under Project 2832, Modernization Dem/Val (Project 1024 ICBM C2 Applications), PE 0604851F, ICBM Modernization EMD (Project 13C4, Strategic C4 Program), PE 0101213F NOTE: This project was established in Jan 96 to consolidate efforts related to DIRECT currently being or planned for accomplishment in PE 0603851F, ICBM VLF/LF System Improvements, in this PE.

TBD

TBD

Total Cost

Cost to Complete

FY 2001 Estimate

FY 2000 Estimate

FY 1999 Estimate

FY 1998 Estimate

FY 1997 Estimate

FY 1996 Estimate

FY 1995 Actual

COST (\$ In Thousands)

4521 DIRECT

0

11,413

0

(U) A. Mission Description and Budget Item Justification

DIRECT will provide for all current IEMATS requirements, including the build, release, and transmission of Emergency Action Messages (EAM) to allow the CICS and warfighters to remain responsive to National Command Authorities (NCA) directives. DIRECT will be compatible with the Defense Message System (DMS) The Defense IEMATS Replacement Command and Control Terminals (DIRECT), which is the Improved Emergency Message Automated Transmission System (IEMATS) replacement program, is a Strategic Nuclear Command and Control (C2) system directly supporting the Chairman of The Joint Chief of Staff (CJCS) compelling need to field an IEMATS replacement system no later than second quarter FY99 has been established to insure the orderly closure of AUTODIN when it supplants the Automated Digital Network (AUTODIN) and will interface with all other EAM distribution communications systems. An urgent and Switching Centers (ASC)

FY 1995 (\$ in Thousands):

- IEMATS Replacement (i.e., DIRECT) Prototyping (Funded in Project 2832) **8 8** (2)

FY 1996 (\$ in Thousands): 9

- IEMATS Replacement (i.e., DIRECT) (Funded in Project 2832)
- Total **\$ \$** (2)

FY 1997 (\$ in Thousands): 3

- **DIRECT Engineering and Manufacturing Development** (U) \$11,413
 - Total (U) \$11,413

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R.	-2 Exhibit)	DATE March 1006
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0303131F Minir	TLE inimum Essential E	Minimum Essential Emer Comm Network (MEECN)
PROJECT NO. AND NAME 4521 DIRECT			
(U) B. Program Change Summary (S in Thousands)			
(U) Previous President's Budget	<u>FY 1996</u> *	Total FY 1997 Cost	
 (U) Appropriated Value (U) Adjustments to Appropriated Value (U) Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/President's Budget 		11,413 11,413 TBD	
* Funded in VLF/LF System Improvements Project (BPAC 2832 this PE)			
(U) Change Summary Explanation: Funding: FY95 and FY96 for DIRECT funded in VLF/LF System Improvements (Project 2832, this PE). \$11.9M added in FY97 and outyear funding to be identified in the FY98 POM. FY97 funding subsequently reduced by \$487K for non-pay inflation.	ovements (Project 2) 37K for non-pay infl	832, this PE). \$11.9M add ation.	ed in FY97 and outyear funding to be
Schedule: FY99 IOC			
Technical: TBD			
(U) C. Other Program Funding Summary (\$ in Thousands)			
(U) Appropriation 3600 0 0 0 0 0 0 0 0 0 0 1CBM Modernization Dem/Val	FY 1997 FY 1998 934 0	FY 1999 FY 2000 E 0 0	TY 2001 Compl Cost 0 934
(U) D. Schedule Profile			
(U) DIRECT IOC (U) DIRECT IOC	FY 1996 2 3	FY 1997 X 2 3 X 2Q	3 4 2QFY99
Page	Page 14 of 16 Pages		Exhibit R-2

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BREAKE	OOWN (R-3)	DATE March 1996
вирает астіміту 7 - Operational System Development	PE NUMBER AND TITLE 0303131F Minir	mum Essential Emer	PE NUMBER AND TITLE 0303131F Minimum Essential Emer Comm Network (MEECN)
PROJECT NO. AND NAME 4521 DIRECT			
(U) A. <u>Project Cost Breakdown (§ in Thousands)</u>			
FY 1995*	* FY 1996*	FY 1997	
 (U) Primary Hardware Development (U) Software Development (U) Systems Engineering (U) Technical Data (U) Development Test and Engineering (U) Government Engineering Support (U) Program Management Support (U) Travel 		4,869 3,387 1,525 103 147 300 983	
(U) Total		11,413	
* Funded in VLF/LF System Improvements Project (BPAC 2832 this PE)			
			-
Pas	Page 15 of 16 Pages		Exhibit R-3
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RDT&E PROGE	RAM EL	PROGRAM ELEMENT/F	PROJECT		SREAKD	COST BREAKDOWN (R-3)	€	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development PROJECT NO AND NAME	relopmen			PE NUMBE 03031;	PE NUMBER AND TITLE 0303131F Minim	um Essen	itial Emer	Comm Ne	PENUMBER AND TITLE 0303131F Minimum Essential Emer Comm Network (MEECN)
4521 DIRECT									
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	and Plannin	g Informatio	n (\$ in Thous	ands)					
Performing Organizations:									
Contractor or Contract Government Method/Type A Performing or Funding C Activity Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995*	Budget FY 1995*	Budget FY 1996*	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Product Development Organizations TBD							8,256	TBD	TBD
Support and Management Organizations TBD	<u>sur</u>						3,010	TBD	TBD
Test and Evaluation Organizations TBD							147	TBD	TBD
Government Furnished Property: Not Applicable	ot Applicable								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation							8,256 3,010 147	CBT CBT CBT	TBD TBD TBD
Total Project							11,413	TBD	TBD
* Funded in VLF/LF System Improvements Project (BPAC 2832	nents Project	(BPAC 2832	this PE)						
			P	Page 16 of 16 Pages	ges			Exhibit R-3	-3

March 1996 0303140F Information Systems Security Program DATE RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 7 - Operational System Development NM Computer Security RDT&E: Firestarter PROJECT NO. AND NAME BUDGET ACTIVITY

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
NM Computer Security RDT&E: Firestarter	11,355	11,300	006'9	5,000	4,600	5,100	5,700	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

providing secure voice transmission. The Air Force does not currently have the necessary mechanisms to provide adequate access control, integrity and assured service for developed to meet the national computer security requirements and standards. This program is in budget activity 7 - Operational System Development, Research Category today's sophisticated computer systems that host data at multiple levels of classification, and are simultaneously accessed by users with differing clearances and needs to The program directs Command Control Communications and Computer Intelligence (C41) system security R&D with emphasis in multilevel computer security and 6.6 because it addresses the development and transition of multilevel information system security for use in new Air Force Information systems. However, research know. With the emergence of the Information Super Highway as an integral DOD resource, it is imperative that adequate information protection mechanisms be performed in this PE is similar to Research Category 6.4 engineering and manufacturing development efforts.

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- Completed the development of the prototype secure guard development.
- Continued joint evaluation and secure distributed computing experiments with Army/Navy/Air Force.
 - Continued the technology transition efforts through the Air Force Electronic Systems Center
- Completed the security policy and specification for secure data handling capability for the F-22 mission support system.
- Completed prototype of highly-configurable guard which can be ported/tailored to a multitude of target user environments and applications. Continued a fieldable version of an advanced TEMPEST signal analysis system.
 - Completed the COMFY ASH program.
- Developed a prototype of signal collection processor with an order of magnitude improvement in performance.
 - Completed the transition of the CYPRIS programmable cryptography system.
- Completed a real time demonstration capability for a secure multi-speaker conferencing system
 - initiated development of narrowband secure video teleconferencing capability.
- Completed a prototype of a secure real time distributed computing environment.
- Continued development of mechanisms to simultaneously transmit in a secure manner both voice and data over dynamic channels. Continued development of multi-rate voice encoding systems to improve quality and performance over noisy channels.

Page 1 of 5 Pages







RD	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	xhibit) DATE March 1996
BUDGET ACTIVITY 7 - Operational Sys	ырсет астіvіту - Operational System Development 0303140F Infor	PE NUMBER AND TITLE 0303140F Information Systems Security Program
PROJECT NO. AND NAME NM Computer Securi		
- (U) \$ 200 - (U) \$ 900 - (U) \$ 305	Continued Test & Evaluation Support for the development of Federal Standards. Completed development of prototype secure distributed DBMS. Continued development of high quality encoding schemes for secure transmission for use by F-22, Air Force Space Command (AFSPC) and as Federal Standard.	n for use by F-22, Air Force Space Command (AFSPC) and as
- (U) \$ 1,500 - (U) \$11,355	Continued development of Trusted RUBIX (secure relational database) effort Total	
(U) FY 1996 (\$ in Thousands	<u>Thousands</u> Dorforms joint carries ambination of multiland course dictributed according and trained metamo	tenteted mintens
9 69 9	Continue developing secure data handling for Air Force Mission Support System.	יו מפוכת פלפוכווופי
69 69 6	Demonstrate/transition Multilevel Secure DBMS techniques and secure guard technologies. Develop security mechanisms to support object oriented multi-media database management system.	chnologies. anagement system.
- (U) \$ 367	Examine the utility, viability and relevance of current COTS products/ technologies in computer communication security in support of AF C2 applications.	ies in computer communication security in support of AF C2
- (U) \$ 882 - (U) \$ 580	Continue the extension of secure distributed computing environment to heterogeneous platforms and transition to operational use. Develop high quality 2400 bps encoding schemes for secure voice transmission for use by F-22, AFSPACECOM and submission as Federal	neous platforms and transition to operational use. or use by F-22, AFSPACECOM and submission as Federal
⇔	Standard. Develop capability to perform secure voice transmission over failure prone channels.	lels.
- (U) \$ 314 - (U) \$ 213	Continue development of narrowband secure video teleconferencing capability for STU-III applications. Continue development of communication system to simultaneously transmit secure voice and data over narrowband channels.	or STU-III applications. The voice and data over narrowband channels.
89 89	Support development of digital speech test techniques and federal standards. Transition information security technology and products to ESC PRISM/Security Transistion Analysis Facility for test, evaluation and insertion	Transistion Analysis Facility for test. evaluation and insertion
	into programs.	
- (U) \$ 300 - (U) \$ 450	Develop and implement plans to secure various interfaces to and between Theater Battle Management Core and related systems. Complete Computer Aided Signal Analysis System for emission security field use.	r Battle Management Core and related systems. e.
↔ 6	Support information warfare INFOSEC policy requirements and transition FIRESTARTER sponsored products to IW Program Office.	STARTER sponsored products to IW Program Office.
- (U) \$ 4,500 - (U) \$ 1,500	Aufroice Electronic Rey Management System. Continue development of Trusted Rubix.	
	Total	
	Page 2 of 5 Pages	Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICATIO	N SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0303140F Infor	דודות Information S	PE NUMBER AND TITLE 0303140F Information Systems Security Program	rity Program
PROJECT NO. AND NAME NM Computer Security RDT&E: Firestarter					
 (U) FY 1997 (U)\$ 400 (U)\$ 400 (D)\$ 400 (D)\$ 416 (D)\$ 416 (D)\$ 214 (D)\$ 214 (D)\$ 214 (Example the development of narrowband secure video teleconferencing capability for STU III applications. (E) (E) (E) (E) (E) (E) (E) (E) (E) (E)	ented DBMS. ering environme. g environment to and secure video y to adaptively in for the developm tillevel secure disbuted computing ling for AFMSS.	nt to incorporate of fieldable use. teleconferencing nanage both voic nent of Federal Stributed process environment to	tools supporting m capability for STU and data transmis tandards. ing and trusted syst heterogeneous platf	ultilevel informatic III applications. sion over a dynami ems orms and transitio	on system security development. ic/degraded channels. n to operational use
(U) B. Program Change Summary (\$ in Thousands)				Ē	
(U) Previous President's Budget(U) Appropriated Value	FY 1995 10,293 11,793	FY 1996 11,261 11,261	FY 1997 8,980	Lotal Cost TBD	
	(190) (245) (3)		÷	TBD	
 d. Delow 1 menold Reprogramming (U) Adjustments to Budget Year since PB96 (U) Current Budget Submit/President's Budget 	11,355	39 11,300	(2,080) 6,900	TBD	
	Pag	Page 3 of 5 Pages			Exhibit R-2





March 1996 DATE RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE

7 - Operational System Development

0303140F Information Systems Security Program

PROJECT NO. AND NAME

NM Computer Security RDT&E: Firestarter

(U) Change Summary Explanation:

Funding:

\$118 thousand general reduction. FY96:

\$2 million reduction for other Air Force Requirements FY97:

\$45 thousand reduction for overhead reduction

Schedule: Delays completion and start of numerous research efforts.

Technical: Planned Computer security and emission security and communications security efforts stop.

(U) C. Other Program Funding Summary (\$ in Thousands)

(U) Related RDT&E:
(U) The research and development efforts pursued under Program Element (PE) 33140F are complementary to work being performed under PE 35167G which addresses the development of generic technology in the area of information security. Products from PE 33140F transition to other agencies through PE 64740F Computer Resource Management Technology Transition. There is no unnecessary duplication of effort within the Air Force of the Department of Defense.

(U) D. Schedule Profile

- FY 1996 FY 1995 (U) Requirements Review Board(U) Prototype secure guard(U) Secure data handling security
 - Secure data handling security policy and specification for F-22 MSS
 - Field CAAS for emission security use Prototype highly-configurable guard 3 9

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- Complete COMFY ASH program Complete transition of CYPRIS 9
- Demo secure multi-speaker conf (U) Complete COMFY ASH prograr(U) Demo secure multi-speaker con(U) Prototype secure real time DCE

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Page 4 of 5 Pages

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0303140F Information Systems Security Program	am
PROJECT NO. AND NAME NM Computer Security RDT&E: Firestarter		
(U) Transition security technology to ESC's PRISM/STAF function (U) Prototype secure distributed DBMS (U) High quality encoding schemes for secure transmission (U) Adaptive voice/data over degraded channels (U) Narrow band secure video teleconferencing for STU-III applications (U) Secure distributed computing Environment to field	4 1 2 3 4 4 1 2 3 4 X <td></td>	
	Page 5 of 5 Pages Exhibit R-2	2

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RDT&E BUDGET ITEM JUSTIFICATION	IFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0303144F Electromagnetic Compatibility Analysis Center	ility Analysis Center
PROJECT NO. AND NAME		
649E Joint Spectrum Center (JSC)		

Continuing **Total Cost** Continuing Cost to Complete 8,415 FY 2001 Estimate 8,285 FY 2000 Estimate 8,049 FY 1999 Estimate 7,910 FY 1998 Estimate 7,667 FY 1997 Estimate 0 FY 1996 Estimate FY 1995 Actual COST (\$ In Thousands) Joint Spectrum Center (JSC) 649E

prime sources of information for DoD use of the EM spectrum. The JSC provides guidance and assistance to OASD, Joint Staff, DoD activities and Unified Commands to ensure development and acquisition of electromagnetically compatible systems and for the effective deployment of these systems in military operations. This Center is the focal point for spectrum related support, Electromagnetic Environmental Effects (E3), and EM interference resolution assistance to operational units including deployable support to CINC Joint Task Forces. The JSC mission is integral to other vital activities such as Information Warfare (IW), Command and Control (C2) Protect and other standardization of DoD automated spectrum information and management systems. Specifically, the Center designs, develops, and maintains DoD automated spectrum (U) A. Mission Description and Budget Item Justification (U) The Joint Spectrum Center (JSC) serves as the DoD focal point for electromagnetic (EM) spectrum management systems, evaluation tools, and databases employed by the Unified Commands, Military Departments, and Defense Agencies. The JSC databases are the management matters in support of the Unified Commands, Military Departments, and Defense Agencies in planning, acquisition, training, and operations. The JSC receives operational guidance from the Joint Staff (J6) and policy guidance from the Assistant Secretary of Defense for C3I (ASD(C31)). The JSC is the responsible defensive C3 warfare activities as directed by the Joint Staff. This program is in budget activity 7 - Operational System Development, because it involves efforts activity for DoD spectrum management and use automation for strategic, theater, and tactical operations. The JSC has the responsibility for architecture and supporting operational systems development. NOTE: FY95 RDT&E funding was budgeted within the Air Force under PE 0303144F, Electromagnetic Compatibility Analysis Center (ECAC) which was renamed the Joint Spectrum Center effective 28 Sep 94. For FY1996, Executive Agent responsibility and funds for JSC were transferred from the Air Force to Defense Information Systems Agency (DISA). For FY1997 and outyears, the JSC responsibility and funds return to the Air Force.

(U) FY 1995 (\$ in Thousands):

9	(U) 3,300	Supported JSC government staff
Ð '	- (U) 300	Developed and tested phase 2 of the Tactical Environmental Generator Work Station (TEGEN/WS) and releases 3 and 4 of Equipment
		Characteristics/Space Consolidated Maintenance Center (CMC)
(U)	- (U) 2,000	Developed spectrum management software to support joint operations, spectrum certification, CD-ROM database products, and initial efforts to
		transition the Frequency Resource Record System (FRRS) from Defense Integrated Secure Network (DISNET1) to Secret Internet Protocol
		Router Network (SIPRNET)
- (C)	- (U) 463	Initiated planning to migrate legacy spectrum management systems into Global Command and Control System (GCCS) and Defense
		Information Infrastructure (DII) architectures

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Page 1 of 6 Pages

		RE	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operatio	ACTIV erat	//TY ional S	вироет астіліту 7 - Operational System Development	PENUMBER AND TITLE 0303144F Electromagnetic Compatibility Analysis Center	ility Analysis Center
PROJEC 649E ,	T NO. A Joint	PROJECT NO. AND NAME 649E Joint Spectrur	PROJECT NO. AND NAME 649E Joint Spectrum Center (JSC)		
1	9	300	Supported OASD(C31) on DoD spectrum reallocation	Supported OASD(C3I) on DoD spectrum reallocation efforts and developed spectrum planning and use database	Se
1	3	460	Modified Extended Air Defense Simulation (EADSIM) to reflect realistic scenarios	 M) to reflect realistic scenarios 	
i	9	100	Coordinated EMC/Vulnerability integration into Dol	Coordinated EMC/Vulnerability integration into DoD wide Modeling and Simulation architecture activities	
1 1	39	1,240	Developed techniques for analyzing propagation cou	ningroved 35C Cosite Analysis Modes (COSAM). Developed techniques for analyzing propagation coupling on low observable airframe coatings, and analyzing 3-Dimensional aircraft	3-Dimensional aircraft
			geometrics		
1 1	33	175 165	Developed capabilities to evaluate interference to Ult Assessed EMC implications of advanced technologie	Developed capabilities to evaluate interference to Ultra Wideband receivers Assessed EMC implications of advanced technologies (Monolithic Microwave Integrated Circuit (MMIC), non lethal weapons, high data rate	n lethal weapons, high data rate
ı	5	(U) 9,163	UHF communications, next generation digital radios, etc.) Total	, etc.)	
5) 1		1996 (\$ in 0	FY 1996 (\$ in Thousands): EFFORT ACCOMPLISHED AND FUNDED UNDER PE 0303153K, DISA (U) 0 Total	JED UNDER PE 0303153K, DISA	
9		1997 (\$ in	FY 1997 (\$ in Thousands):		
i	5	100	Develop software to incorporate new sources of spectrum related data	trum related data	
ı	9	1,626	initiate development of a circui server architecture to base operations including on-line access to standard	initiate development of a chent server atconfecture for spectrum management Automated Data Processing (ADF) systems supporting sustaining base operations including on-line access to standard database products using World Wide Web technology	or) systems supporting sustaining
I	9	(U) 1,261	Support the migration of tactical spectrum managem	Support the migration of tactical spectrum management to the Common Operating Environments of the GCCS and participate in Joint Working International Management Modules	S and participate in Joint
I	9	(U) 1,261	Provide support to OASD/C3I on issues expected to a	Frovide support to OASD/C31 on issues expected to arise in preparation for the World Radio Conference 97, and on other issues regarding	ind on other issues regarding
ı	9	200	reallocation of Government spectrum to the civil sector Coordinate Electromagnetic Environment Effects (E3)	reallocation of Government spectrum to the civil sector Coordinate Electromagnetic Environment Effects (E3) requirements for application within DoD modeling and simulation architectures	l simulation architectures
ı	3		Improve the JSC Space-Earth EMC model graphics	Improve the JSC Space-Earth EMC model graphics and user interface to more efficiently handle large EM environments	vironments
1	9	873	Incorporate improved capabilities to analyze advance airframe coupling model to include 3-Dimensional ai	Incorporate improved capabilities to analyze advanced/complex systems within COSAM Next Generation (NG) and improve JSC's existing airframe coupling model to include 3-Dimensional aircraft geometry coupling paths, advanced surface shading techniques, and an improved	3) and improve JSC's existing grechniques, and an improved
			user interface		
i	9	200	Assess advanced technologies for EMC implication		
1	9	922	Develop draft DoD ordnance E3 Directives and opera	Develop draft DoD ordnance E3 Directives and operational guidance, verify ordnance data susceptibility and develop data base to support	levelop data base to support
ı	9	400	operational deproyment Purchase monitoring equipment to support interferen	operational deproyment. Purchase monitoring equipment to support interference resolution of advanced frequency hopping systems	
			A d	Page 2 of 6 Pages	Exhibit R-2







RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R	-2 Exhibit)	Δ	DATE March	March 1996	
BUDGET ACTIVITY 7 - Operational System Development PROJECT NO. AND NAME	PE NUMBER AND TITLE 0303144F Elect	TITLE Electromagnetic Compatibility Analysis Center	Compatibili	ty Analysis	Center	
649E Joint Spectrum Center (JSC)						
Program Change						
(U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong Gen Reductions	FY 1996 0	FY 1997 0	Total Cost			
 b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/President's Budget 		7,667	Cont			
(U) Change Summary Explanation: Funding: Effective FY97, funding for JSC transferred from DISA to the Air Force	he Air Force					
(U) C. Other Program Funding Summary (\$000 in Thousands)						<u>-</u> ::
(U) O&M AF BA 1 6,460 0	FY 1997 FY 1998 11,916 12,447	FY 1999 FY 2000 12,736 12,713	$\frac{\text{FY } 2001}{3}$	To T Compl	Total Cost Cont	
FY96 O&M Funding provided by DISA under PE 0303153K. FY95 and FY96	FY95 and FY96-01 O&M funding budgeted by the Air Force under PE 0303144F	udgeted by the Air Fo	rce under PE 030)3144F		
(U) D. <u>Schedule Profile</u>						
	Page 3 of 6 Pages			Exhibit R-2		

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ITEM JUSTII	FICATION	V SHEET (F	र-2 Exhibi	t)	DATE March 1996	1996
BUDGET ACTIVITY 7 - Operational System Development	ıent		PE NUMBER AND TITLE 0303144F Elect	TITLE Electromag	netic Comp	TITLE Electromagnetic Compatibility Analysis Center	Senter
PROJECT NO. AND NAME 649E Joint Spectrum Center (JSC)							
(U) Contract Award (U) Decision on Exercise of Option	1 2 3 X X	. T	FY 1996 2 3	1	FY 1997 X	4	
		Page	Page 4 of 6 Pages			Exhibit R-2	

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RDT	RDT&E PROGRAM ELEMENT	RAM EL		PROJECT COST BREAKDOWN (R-3)	COST BI	REAKDO	WN (R-3	(a)	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	System De	velopmen	ţ		PE NUMBER AND TITLE 0303144F Elect	AND TITLE IF Electro	omagnetic	: Compat	ibility Ana	TITLE Electromagnetic Compatibility Analysis Center
PROJECT NO. AND NAME 649E Joint Spectrum Center (JSC)	ME rum Center ((DSC								
(U) A. Project Cost Breakdown (\$000 in Thousands)	t Breakdown (\$000 in Thous	ands)				•			
				FY 1995		FY 1996	FY 1997			
(U) Program Management Personnel(U) Travel(U) Program Management support(U) Contractor Engineering Support(U) Total	ement Personne ement support neering Support			2,593 284 423 5,863 9,163	E 4 E E E		7,667			
Note: Effective FY96, Program Management Personnel, Travel	ó, Program Mar	lagement Perso	onnel, Travel, a	l, and Support funded out of O&M Air Force appropriation.	ided out of O	kM Air Force	appropriation	ü		
(U) B. Budget Acquisition History and Planning Informati	uisition Histor	y and Plannin	g Information	on (\$000 in Thousands)	(sands)					
Performing Organizations:	zations:									
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle Product Development Organizations	Contract Method/Type or Funding Vehicle It Organizations	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>BAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Support and Management Organizations Test and Evaluation Organizations ITT Research SS/CPAF/ 1 In 1	ment Organiza Organizations SS/CPAF/	<u>iions</u> 1 In190	34 854	34.854	30.500	4 354				34 854
	MIPR	Award				· •				
IIT Research Institute.	C/CPAF/ MIPR	17May95	34,471	34,471		1,504		7,667	25,300	34,471
is MD napolis	N/A	N/A	N/A	N/A	N/A	3,305			Cont	Cont
				Po	Page 5 of 6 Pages	es			Exhibit R-3	R-3

RDT&E PROG	RAM ELE	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BE	EAKDO	WN (R-3		DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	velopment		PE NUMBER AND TITLE 0303144F Elect	AND TITLE F Electro	magnetic	Compati	bility Ana	ਹ ਸਸ∟∈ Electromagnetic Compatibility Analysis Center
PROJECT NO. AND NAME 649E Joint Spectrum Center (JSC)	(DSC							
(U) B. Budget Acquisition History and Planning Information Continued (\$000 in Thousands)	v and Planning	g Information Continued (S	000 in Thousa	(spu				
Government Furnished Property:								
Contract Method/Type Item or Funding <u>Description</u>	Award or Obligation <u>Date</u>	Delivery <u>Date</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Product Development Property Support and Management Property Test and Evaluation Property GFP procured SS/CPAF w/Program Element RDT&E funds under Contract identified above	1Jul90 - 30Jun95	1Jul90-30Jun95	35	W				40
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project N/A			35	vo .			Cont	Cont
		Pc	Page 6 of 6 Pages	s			Exhibit R-3	۲-3

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RD	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICAT	HS NOI.	IEET (R	-2 Exhit	oit)		DATE M	March 1996	9
BUDGET ACTIVITY 7 - Operational Sy	вирдет астічіту 7 - Operational System Development		PE NU 030	PE NUMBER AND TITLE 0303152F Worl	TTLE /orld-Wic	le Militar	y Cmd ar	PE NUMBER AND TITLE 0303152F World-Wide Military Cmd and Control Sys	ol Sys	
PROJECT NO. AND NAME 4485 AF-Global Com	tem (AF-G	(SOO								
	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
4485 AF-Global Command	AF-Global Command and Control System (AF-GCCS)	1,900	0	7,481	7,296	7,196	7,192	7,080	ТВО	TBD
(U) A. Mission Descrip	(U) A. Mission Description and Budget Item Justification									
(U) The Global Col Control, Communi interoperability pro The AF is responsil Budget Activity 7,	(U) The Global Command and Control System (GCCS) has been designated the Command and Control migration system for DOD. It is an integrated Command, Control, Control, Communications, Computer, and Intelligence (C4I) system capable of supporting all echelons of the US military command structure. GCCS solves C4I interoperability problems between Service components by establishing a Common Operating Environment (COE), as the first step to eliminating stovepipe systems. The AF is responsible for development of four of the modules that will make up this COE, and integration of AF unique applications with the COE. This effort is Budget Activity 7, Operational Systems Development, because the program develops and implements software for an operational computer network.	s been design I) system capestablishing les that will ause the programment	nated the Copable of sup a Common of make up this gram develor	nnmand and porting all e Operating E is COE, and ps and imple	Control michelons of the invironment integration integration cannot softw	gration systene US milita (COE), as the of AF unique of AF unique was for an ol	m for DOD, ry command e first step to application operational co	It is an inte structure. Considerating structure. Considerating structure is with the Computer netwo	sgrated Com GCCS solves g stovepipe s OE. This ef	mand, C4I ystems. fort is
(U) <u>FY 1995</u> - (U) 500 - (U) 1,400 - (U) 1,900	Enhancement of Operational Taskings and Priorities (OT&P) software, and integration with the adapted COMPES modules Operations Module (OPSMOD) enhancement to the OT&P system Total	s and Priorit ncement to tl	ies (OT&P) ne OT&P sy	software, aı stem	ıd integratio	n with the ac	lapted COM	PES module	SS	
(U) <u>FY 1996</u> - (U) 0	Total									
(U) <u>FY 1997</u> - (U) 4,604 - (U) 1,918 - (U) 959 - (U) 7,481	COE Development Crisis Action Planning Evolution Enhancement to OT&P to support user identified Functional Process Improvements Total	r identified	Functional E	rocess Imp	ovements					
			Page 1 of 5 Pages	5 Pages				Exhibit R-2	2-5	

RDT	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ITEM J	USTIFI	CATION	SHEET	. (R-2 E)	khibit)		DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	tem Developme	ənt			PE NUMBER AND TITLE 0303152F Worl	AND TITLE F World-	Wide Mil	itary Cm	PE NUMBER AND TITLE 0303152F World-Wide Military Cmd and Control Sys	ntrol Sys
PROJECT NO. AND NAME 4485 AF-Global Command and Control System (AF-GCCS)	and and Control	System (A	F-GCCS)							
(U) B. Program Change Summary (\$ in Thousands)	Summary (\$ in Tho	<u>usands)</u>						Total		
			Ì		,	j	į	Total		
£	(00 t kkl)		E]	FY 1995	FY 1996	FY 1997	<u> </u>	Cost		
(U) Previous President's Budget (FY 1996)	udget (FY 1996)			N/A	N/A	Z , ;	A/A	N/A		
(U) Appropriated value	prioted Volue			N/A	N/A	4	N/A	N/A		
(U) Adjustinents to Appropriated Value	priated value			NY/A	A17.4	7	Y /1	NI/A		
4. CEID	Judi Neducuoii			A/N	4/N	4 7	4/N	K/X		
c. Omnibus &Other Above Threshold Reprogramming	Shove Threshold Ren	rogrammin	5	4/N	4/N	4 2	\$\N	4/N		
d. Below Threshold Reprogramming	septogramming	, og tanınımı	ω O	1 900	N/A	: Z	A/N	1 900		
(U) Adjustments to Budget Year since FY96 PB	t Year since FY96 PF	œ.			• 1/1	+7 481		+7.481		
	it/President's Budget	1		1,900	N/A	7,481		9,381		
(U) Change Summary Explanation: Funding: any FY96	olanation: Y 95 reprogramming ny FY96 COE develo	g initiated pa	rogram; FY	796 Presider cted to be co	ıt's Budget v onducted wit	vas submitte h Global Co	d before the	requiremen oort System	t for RDT&E s COE fundin	planation: FY 95 reprogramming initiated program; FY96 President's Budget was submitted before the requirement for RDT&E AF funds was identified, any FY96 COE development efforts are expected to be conducted with Global Command Support Systems COE funding or below threshold
Schedule: R Technical: I	reprogramming; FY97 is first budget submission. Requirement for GCCS COE and initial schedule was established in FY95, schedule for future releases is being defined. Technical responsibilities for COE development were initially established in FY95. Requirements evolve to solve C41 ir by supporting efficient migration and integration of C4I applications at all levels of command.	7 is first buc S COE and ities for CO it migration	iget submis initial sche E developm and integra	sion. dule was es ent were inition of C41.	tablished in l itially establi. applications	FY95, sched shed in FY9. at all levels	submission. al schedule was established in FY95, schedule for future velopment were initially established in FY95. Requirem integration of C4I applications at all levels of command.	releases is ents evolve	being defined to solve C4I	reprogramming; FY97 is first budget submission, Requirement for GCCS COE and initial schedule was established in FY95, schedule for future releases is being defined. Technical responsibilities for COE development were initially established in FY95. Requirements evolve to solve C4I interoperability problems by supporting efficient migration and integration of C4I applications at all levels of command.
(U) C. Other Program Funding Summary (\$\frac{1}{2}\$ in Millions)	unding Summary (\$	in Million								
(U) Other Procurement Air Force		FY 1995 18.4	FY 1996 5.1	FY 1997 10.2	FY 1998 7.4	FY 1999 6.0	FY2000 6.1	FY2001	To Compl TBD	Total Cost TBD
(U) Military Personnel		4.6	2.9	1.0	1.0	1.0	1.1	1.1	TBD	TBD
(U) Operations and Maintenance Air Force	nance Air Force	5.1	9.2	22.4	17.2	17.2	17.4	18.1	TBD	TBD
ng ræ										
				Раяе	Page 2 of 5 Pages	5			Exhib	Exhibit R-2





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE March 1996
вирает астіуіту 7 - Operational System Development	PE NUMBER AND TITLE 0303152F World-Wide Military Cmd and Control Sys	nd Control Sys
PROJECT NO. AND NAME 4485 AF-GIODAI Command and Control System (AF-GCCS)		
(U) D. Schedule Profile 1 2 3 4 1.) (U) Common Operating Environment (COE) Development • Development • Distributed Computing Services • Office Automation • Data Interchange Services 2.) (U) Crisis Action Planning Enhancement (U) COE update delivery schedule in FY 97 is still being defined.	FY 1996 1 2 3 4 1 2 3 X X X X X X X X X X X X X	4
	Page 3 of 5 Pages	Exhibit R-2

BUDGET ACTIVITY 7 - Operational System Development PROJECT NO. AND NAME 4485 AF-Global Command and Control System (AF-GCCS)	L'ENUEN I	ROJECT	COST B	REAKE	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	7-3)	DATE	March 1996	
PROJECT NO. AND NAME 4485 AF-Global Command and Control (ent		PE NUMBER 030315	PE NUMBER AND TITLE 0303152F Worl	d-Wide N	fillitary Cr	PE NUMBER AND TITLE 0303152F World-Wide Military Cmd and Control Sys	introl Sys	
	System (AF-GC	cs)							
(U) A. Project Cost Breakdown (\$ in Thousands)	ands)	FY 1995		FY 1996	FY 1997				
(U) Common Operating Environment (COE) Development (U) Crisis Action Planning Evolution (U) Operational Testing and Planning (OT&P) Enhancement	evelopment Enhancement	500			4,604 1,918 959				
(U) Total		1,900	0		7,481				
(U) B. Budget Acquisition History and Planning Information (\$ in Millions)	ning Information	(\$ in Millions)							
Performing Organizations:									
Product Development Organizations Contractor or Contract Government Method/Type Award or Performing Activity or Funding Obligatio Vehicle n Date (U) Rome Lab FFP/FCA Jun 95 (U) Material PFP/FCA Jun 95 (U) Miscellaneous various various (U) Electronic various various Systems Center Support and Management Organizations (U) TEMS OT&M Jun 95 (U) Miscellaneous various various	or Performing io Activity EAC N/A N/A N/A N/A N/A N/A N/A N/A	Project Office RAC N/A N/A N/A N/A N/A N/A N/A N/A N/A	Total Prior to 0 0 0 0 0 0 0 0	Budget PY 1995 0.25 1.4 0.085 0	Budget FY 1996 0 0 0 0 0 0 0	Budget FY 1997 0 0 7.5	Budget to Complete TBD TBD TBD TBD TBD	Total Program TBD TBD TBD TBD TBD TBD	
Test and Evaluation Organizations (U) Not Applicable		Pag	Page 4 of 5 Pages	۶			л iriri c.a	*	





					 	 		70 Tay - 10
DATE March 1996	PE NUMBER AND TITLE 0303152F World-Wide Military Cmd and Control Sys			Budget to Total Complete Program				
	ary Cmd ar			Budget I FY 1997				
WN (R-3)	Wide Milita			Budget <u>FY 1996</u>				
REAKDO	AND TITLE F World-			Budget FY 199 <u>5</u>				
COST BI	PE NUMBER AND TITLE 0303152F World			Total Prior to FY 1995				
RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ment	PROJECT NO. AND NAME 4485 AF-GIobal Command and Control System (AF-GCCS)		Award or Obligation Delivery <u>Date</u> <u>Date</u>				
OGRAM	Develop	and Contro	rty:	8.				
T&E PR	al System	VAME I Command	ished Prope	Contract Method/Type or Funding <u>Vehicle</u>	-			
R	вирает Астічіту 7 - Operational System Development	PROJECT NO. AND NAME 4485 AF-Global Cor	Government Furnished Property:	Item Description (U) Not Applicable				

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Exhibit R-3

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RDT&E BUDGET ITEM JUS	STIFICA	TION SI	TIFICATION SHEET (R-2 Exhibit)	-2 Exhil	ojt)		DATE	100	
BUDGET ACTIVITY					•		_	March 1886	٥
7 - Operational System Development		PE N	PE NUMBER AND TITLE 0303601F Milstar Terminals Size (Space)	itle Ilstar Te	rminale	eus) sye	(00		
PROJECT NO. AND NAME 2487 MILSATCOM Terminals						200 Sec	(23)		
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to	Total Cost
								200	_
2487 MILSATCOM Terminals	17,664	40,969	26,962	19,225	12,628	11,703	11.837	16,800	1 051 335
						•		0).	000

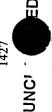
Notes: FY95 and FY96 funding includes Milstar terminals. From FY97 on, funding includes Milstar terminals, SHF terminals and UHF SATCOM. FY95-FY96 funding for UHF SATCOM is in PE 0303606F (UHF Satellite Communications). Funding for SHF terminals (FY95 and prior) is in PE 0303605F. Prior funding for all programs is included in total costs,

(U) A. Mission Description and Budget Item Justification

Access (DAMA) techniques. Development efforts in the UHF SATCOM program are primarily focused on the design and implementation of the Network Control System contractors, are continuing. The Air Force's Milstar tactical terminals, the Single Channel Anti-Jam Manportable (SCAMP) and the Secure, Mobile, Anti-Jam, Reliable, (NCS), and ground and airborne DAMA terminals. DSCS terminal procurement efforts sustain and modernize the Ground Mobile Forces terminal and the Jam-Resistant Tactical Terminal (SMART-T), are funded by the Air Force and procured by the Army. Increasing requirements for UHF satellite capacity coupled with limited channel contains efforts to develop equipment for Air Force users to communicate over military satellites, including Milstar, Ultra High Frequency (UHF) satellites, and Defense capacity, led the Joint Staff to mandate new standards for UHF users that are designed to improve satellite access and efficiency by utilizing Demand Assigned Multiple Secure Communications (JRSC) subnet of DSCS. This effort is in budget activity 7 - Operational System Development because it has completed a Milestone III review Military Satellite Communications (MILSATCOM) provides worldwide communications to strategic and tactical warfighters. The MILSATCOM Terminals Program Satellite Communication System (DSCS). Enhancements to the Milstar ground and airborne Command Post Terminals, which were procured in FY93 through two and is in production.

(U) B. Program Change Summary (S in Thousands)

FY 1997 8,852		18,110	26,962
FY 1996* 42,591 42,591	-1,622		40,969
FY 1995 18,249 18,249	-199	٠ ک	17,664
(U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value	a. Congressional General Reductions b. SBIR	d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY96PB	(c) carroin panger saminar resident s budget





Page 1 of 6 Pages



DATE RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE BUDGET ACTIVITY

March 1996

PROJECT NO. AND NAME

7 - Operational System Development 2487 MILSATCOM Terminals

0303601F Milstar Terminals Sys (Space)

(U) Change Summary Explanation:

Funding: UHF SATCOM funding was moved into PE 0303601F in FY97 and funding was zero-balance transferred within PE to meet program requirements. * The FY96 PB amount does not reflect funding reductions that are reserved for other DoD reprogramming needs (\$445)

Schedule: None.

Technical: None.

(U) C. Other Program Funding Summary (\$ in Thousands)

	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	Compl	Cost
(U) Aircraft Procurement, Air Force	6,560	992	262	865	810	753	463	Cont	Cont
(U) Other Procurement, Air Force	5,342	39,975	57,364	30,709	66,185	65,556	68,119	Cont	Cont
Note: FY95 procurement includes Milstar terminals. FY	FY96 proc	urement incl	ludes Milstar	r and SHF to	erminals. Fr	rom FY97 or	n, procureme	nt includes M	ilstar and SHF
terminals, and UHF SATCOM. Funding includes equipi	luipment and	l initial spar	es costs.						

Total

 $\mathbf{I}_{\mathbf{0}}$

(U) A. Mission Description and Budget Item Justification

FY 1995

Continue basic activities required to support the Milstar Terminals program (U) \$2,592

Develop Command Post Terminals (CPT), upgrades, and modifications (U) \$13,387

Continue UHF terminal and AFSATCOM modifications (U) \$874

AFSATCOM Payload Integration on Classified Host (U) \$50

Support testing activities and conduct program studies and trades (U) \$761

Total (U) \$17,664

FY 1996

Continue basic activities required to support the Milstar Terminals program (U) \$4,028

Develop CPT upgrades and modifications \$29,297 3

Continue UHF terminal and AFSATCOM modifications \$5,070

Support testing activities \$1,870

AFSATCOM Payload Integration on Classified Host

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0303601F Milstar Terminals Sys (Space)	ls Sys (Space)
PROJECT NO. AND NAME 2487 MILSATCOM Terminals		
 (U) FY 1997 (U) \$2,740 (D \$13,762 (D \$1,859 (D \$1,850 (D \$1,850 (D \$1,407 (D \$26,962 (D) \$26,962 (D) \$26,962 	t the MILSATCOM Terminals program modifications k Control System	
(U) D. Schedule Profile FY 1995	FY 1996	FY 1997
(U) CPT IOT&E Phase I (U) CPT IOT&E Phase II (U) CPT IOC I (U) CPT IOC I	1	×
	v	
(U) SCAMP Production Begins (U) SCAMP Deliveries Begin (U) SMART-T Low-Rate Initial Production Begins	×	· ×
(U) Network Control System (U) Testing x (U) Deliveries	X	
(U) World-Wide System Test (U) DAMA Modem Certification Testing x	!	XX
(U) Contract Award (U) Deliveries	×	
(U) Ground DAMA Terminal Deliveries	x	
	Page 3 of 6 Pages	Exhibit R-2





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICATION S	SHEET (R-2	Exhibit)	DATE March 1996
ВUDGET ACTIVITY 7 - Operational System Development	PE	PE NUMBER AND TITLE 0303601F Milst	PE NUMBER AND TITLE 0303601F Milstar Terminals Sys (Space)	
PROJECT NO. AND NAME 2487 MILSATCOM Terminals				
(U) A. Project Cost Breakdown (S in Thousands)				
	FY 1995	FY 1996	FY 1997	
(U) CPT Upgrades	13,387	29,297	13,762 589	
(U) Testing Support/Studies	761	1,870	1,850	
(U) SPO Ops (PSA, TDY, Trng, Sup/Equip, Ktr Conv)	2,592	4,028 704	2,740	
(U) Network Control System World Wide system test			1,407	
(U) NCS Upgrade for Full Operational Use (U) Total	17,664	40,969	6,614 26,962	
	Page 4	Page 4 of 6 Pages		Exhibit R-2

RD	RDT&E PROGRAM ELEMENT/	GRAM EL	EMENT/F	PROJECT COST BREAKDOWN (R-3)	COSTB	REAKD(JWN (R-	3)	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	al System D	evelopmen	ıt		PE NUMBER ANI 0303601F	PE NUMBER AND TITLE 0303601F Milsta	r Termina	אוזונב Milstar Terminals Sys (Space)	ace)		
PROJECT NO. AND NAME 2487 MILSATCOM Terminals	JAME OM Terminals										
(U) B. Budget Acquisition History and Planning Information (S in Thousands)	cquisition Histo	ory and Planni	ng Informatio	n (\$ in Thouss	(spur						
Performing Organizations: Contractor or	nizations: Contract										
Government Performing	Method/Type or Funding	Award or Obligation	Performing Activity	Project Office	Total Prior to	Budget	Budget	Budget	Budget to	Total	
Activity	Vehicle	Date	EAC	EAC	FY 1995	FY 1995	FY 1996	FY 1997	Complete	<u>Program</u>	
Product Development Organizations	ent Organization										
Raytheon Corp	FPIF/FFP	Jun 85	869,562	869,562	850,836	1,152	18,251	7,912	17,411	895,562	
Rockwell	CPIF	Aug 93	43,068	43,068	43,068				0	43,068	
Miscellaneous	Various	Varions	N/A	N/A	642,459	1,338	5,967	350	0	650,114	
ViaSat	C/FFP	Oct 95	14,895	14,895				3,146	11,749	14,895	
Support and Management Organizations	gement Organiza	tions									
MITRE	Varions	Various	N/A	N/A	75,157	9,296	8,505	8,323	21,047	122,328	
SPT Contractors	Various	Various	N/A	N/A	142,529	4,444	5,012	3,807	8,244	164,036	
Tecolote	Various	Various	N/A	N/A	200	498	682	684	2,949	5,013	
Miscellaneous	Various	Various	N/A	N/A	15,205	807	1,338	2,740	10,793	30,883	

Notes: FY95 and FY96 funding includes Milstar terminals. From FY97 on, funding includes Milstar terminals, SHF terminals and UHF SATCOM. FY95-FY96 funding for UHF SATCOM is in PE 0303606F (UHF Satellite Communications). Funding for SHF terminals (FY95 and prior) is in PE 0303606F. Prior funding for all programs is included in total costs.

5,345 20,091

0

1,025 189

129

19,066 5,027

N/A N/A

N/A N/A

Various

Various Various

Miscellaneous

Wright-Labs

N/A

Test and Evaluation Organizations

Page 5 of 6 Pages

Exhibit R-3





RD	RDT&E PROGRAM ELEMENT	RAM ELE	MENT/PRO	/PROJECT COST BREAKDOWN (R-3)	REAKDO	WN (R-3		DATE	March 1996
BUDGET ACTIVITY 7 - Operation	JDGET ACTIVITY - Operational System Development	velopment		PE NUMBER AND TITLE 0303601F Milst	AND TITLE F Milstar	אוזורנ Milstar Terminals Sys (Space)	Sys (Sp	ace)	
PROJECT NO. AND NAME 2487 MILSATCOM Terminals	NAME OM Terminals								
(U) B. Budget A	cquisition History	and Planning	Information Con	(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	a				
Government Furnished Property:	nished Property:								
Item <u>Description</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Delivery <u>Date</u>	Total Prior to <u>FY 1995</u>	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Product Development Property	nent Property N/A								
Support and Management Property	gement Property	N/A							
Test and Evaluation Property	on Property N/A								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	Development and Management Evaluation			1,536,363 233,091 24,093	24,218 15,537 1,214	11,408 15,554	29,160 43,033 0	1,603,639 322,260 25,436	
Total Project	:			1,793,547	40,969	26,962	72,193	1,951,335	
Notes: FY95 and FY96 for UHF SATCOM is in is included in total costs.	FY96 funding incl A is in PE 030360¢ I costs.	udes Milstar te F (UHF Satell	rminals. From FY9 ite Communication	Notes: FY95 and FY96 funding includes Milstar terminals. From FY97 on, funding includes Milstar terminals, SHF terminals and UHF SATCOM. FY95-FY96 funding for UHF SATCOM is in PE 0303606F (UHF Satellite Communications). Funding for SHF terminals (FY95 and prior) is in PE 0303605F. Prior funding for all programs is included in total costs.	Milstar termir minals (FY95	ials, SHF terr and prior) is	ninals and U in PE 030360	HF SATCOM)5F. Prior fun	. FY95-FY96 funding ding for all programs

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March 1996 0305110F Satellite Control Network (Space) DATE RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 7 - Operational System Development BUDGET ACTIVITY

PROJECT NO. AND NAME

3276 Satellite Control Network

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3276 Satellite Control Network	69,325	78,830	096'68	93,366	107,136	109,951	114,272	Continuing	Continuing

(U) A. Mission Description and Budget Item Justification

- highly reliable national satellite tracking, telemetry, commanding (TT&C), and data relay capability to meet the requirements of the growing inventory of operational improvements occur in parallel with operations. This AFSCN project funds the development, acquisition, and engineering needed to continue the evolution of this (U) The AF Satellite Control Network (AFSCN) is a global network of control centers, remote tracking stations, and communications links providing the earth-tospace connection required for operation of military satellites. The AFSCN provides satellite and payload command and control, and mission data relay using Mission Control Centers in California and Colorado and eight global Remote Tracking Stations (RTS). Since the AFSCN operations are continuous, system and developmental DoD, National, Civil, and Allied satellite systems.
- following operational satellite systems: DMSP, GPS, DSCS, DSP, FLTSAT, Milstar, GEOSAT, Skynet, NATO III/IV, and Classified Programs. It controls on-orbit (U) Satellite systems require periodic contact with ground based command & control systems to operate. The AFSCN is the DoD common user satellite control network. The AFSCN is maintained, operated and upgraded using funding provided in three PE's. The AFSCN provides satellite state-of-health TT&C for the spares and orbit repositioning for satellite programs with dedicated mission networks. It also supports these and other systems with mission data relay.
- (U) The AFSCN conducts an Improvement & Modernization (I&M) program to reduce the cost of satellite operations in the future by operating more efficiently with fewer, lower skilled personnel and more reliable standardized equipment. The primary focus of the I&M program is upgrades to the Command and Control Segment (Network Operations Upgrade Program) and the Communications Segment (Range and Communications Development Program). Both are planned to be accomplished on a time phased approach exploiting commercially developed products through using an evolutionary acquisition strategy.
- Management Segment scheduling system will be replaced with an automated system which includes integrated inter-range operations capability to enable more rapid command and control segment. In addition, the AFSCN will have greater capability and capacity with increased standardization and interoperability. The Resource workstation-based, open architecture using advanced high speed data links. When developed and fielded, this will facilitate a 30% reduction in O&M for the (U) The Network Operations Upgrade Program will move satellite command and control from a mainframe-based, centralized computer architecture to a and efficient use of network resources.

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			POTRE BIIDGET ITEM II ISTIFICATION SHEET (R-2 Exhibit)	SHEET (B-2 Exhibit)	DATE
Iã ►	JE Q	BUDGET ACTIVITY 7 - Operation	BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305110F Satellite Control Network (Space)	Marcil 1990
. [품 8	3276	PROJECT NO. AND NAME	T NO. AND NAME Satellite Control Network		
1	(C)	(U) The Ran grid system t surge capabil the network.	(U) The Range and Communications Development Program will transition the current, costly point-to-point AFSCN communications network to a communications grid system that integrates government and commercial networks as technology becomes available. This new architecture will eliminate costly infrastructure, enable surge capability, and provide a minimum 25% savings in O&M costs over the current systems. This will improve capacity, reliability, data quality, and user access to the network.	am will transition the current, costly point-to-point AFSCN communications network to a communications etworks as technology becomes available. This new architecture will eliminate costly infrastructure, enable O&M costs over the current systems. This will improve capacity, reliability, data quality, and user access to	ns network to a communications inate costly infrastructure, enable ty, data quality, and user access to
	(S)) Research the operat	(U) Research category is Operational Systems Development, since this effort supports a fielded system. Development of new satellite control capabilities is essential to the operational capability of current and new satellite systems. The project number for the entire Program Element is 3276.	supports a fielded system. Development of new satell number for the entire Program Element is 3276.	te control capabilities is essential
I I	555	(U) FY 1995 (U) \$14,075		rade): documentation, and lab demonstration equipment for	workstation based,
			Simplified Satellite Operations System. Objectives: open architecture "plug-and-use," increased efficiency, reduced nardware/software maintenance costs, and reduced manpower. Completed development of functional requirements and employment concept and identified system implementation alternatives. Began assessments of those satellite control products in the Demonstration Lab. Pursued a system development approach in cooperation with other government efforts. Scheduled program completion FY 01.	intecture "plug-and-use," increased efficiency, reduced spment of functional requirements document and emplents of those satellite control products in the Demons nament efforts. Scheduled program completion FY 01	nardware/sontware oyment concept and ration Lab. Pursued a
1	9	\$8,800	Development Support: Developed and implemented user-requested, priority work group required modifications. Performed engineering analysis studies and cost estimates for future planned projects.	up required modifications. Performed engineering an	alysis studies and cost
1 1	99	\$16,000	Communications Segment: Continued Communications Segment archival equipment upgrade by completing engineering, defining commercial-off-the-shelf (COTS) system hardware, and initiating procurement of standardized telemetry recorders. Initiated development of hardware and software for Wide Area Natural Initia (WANIII) his developing first unit prototones. Continued development of the Centralized Control and Monitoring	rade by completing engineering, defining commercial cy recorders. Initiated development of hardware and sociotymes. Continued development of the Centralized	off-the-shelf (COTS) system oftware for Wide Area
1	9	\$20,815	(CCM) for network communications, including design and initial installation of laboratory equipment. Scheduled completion FY01. Network Integration and Systems Engineering: Continued system engineering and development of network hardware/software to meet	system engineering and development of network hard	ompletion FY01.
1 1 1	99	\$9,635	Above Threshold Reprogramming for CSEL approved Dec 95 Total	<u>26.35</u>	
				Dana 2 of & Danas	nyhinit 0.0
ı			1 0 %	2 4 0/ 0 1 akes	

	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 7 - Operational	DOGET ACTIVITY - Operational System Development 0305	PE NUMBER AND TITLE 0305110F Satellite Control Network (Space)	pace)
PROJECT NO. AND NAME 3276 Satellite Cont	T NO. AND NAME Satellite Control Network		
(U) <u>FY 1996</u>			
(<u>)</u>	Network Operations Upgrade Program:		
(U) \$30,700	Begin software development of Resource Scheduling and Inter-Range Operations. Begin modifications for the Standard Satellite Control System for integration into the first SOC. These upgrades are consistent with the US Space Command developed "Plug-and-Use" archite	Scheduling and Inter-Range Operations. Begin modifications for the Standard Satellite Control These upgrades are consistent with the US Space Command developed "Plug-and-Use" architecture.	ard Satellite Control lug-and-Use" architecture.
	The four Satellite Operations Centers (SOC) to be modernized are: SOC 31A (GPS), SOC 31B (DSP & DMSP), SOC 33 (Comm Sats), and SOC 34 (Milstar). Scheduled completion FY01. Continue developing priority user-requested modifications to command and control systems.	DC 31A (GPS), SOC 31B (DSP & DMSP), SO priority user-requested modifications to comn	C 33 (Comm Sats), and nand and control systems.
(D) -	Range and Communications Development Program:		•
= (O) \$35,000	Under the range and Communications Development Contract, continue Communications Segment arcmival recorder system upgrades by procurement, installation, and test of standardized COTS telemetry recorders. Continue development of COTS based hardware and software for	be Communications Segment arcmyal recorder sorders. Continue development of COTS based	system upgrades by I hardware and software for
	WANIU by developing first unit prototypes. Continue development of the Centralized Control and Monitoring (CCM) of network including design and initiating procurement of hardware and software. Begin solid state switch replacement engineering analysis. Scheduled completion	the Centralized Control and Monitoring (CCN lid state switch replacement engineering analy	 d) of network including sis. Scheduled completion
!	FY01. Continue supporting development efforts with engineering ana	efforts with engineering analysis. Continue developing priority user-requested modifications.	sted modifications.
_ (U) \$347	Development Support: Conduct engineering analyses to provide cost estimating support for future planned projects.	estimating support for future planned projects	
(U) - (U) \$12.783	Network Integration and Systems Engineering: Continue system engineering and integration of hardware/software to meet evolving satellite	gineering and integration of hardware/softwar	re to meet evolving satellite
\$12,783 - (U) \$78,830	Program requirements at Ometina Arre, ration Arre, and the Arres. Total	Complete connectivity with travy satellite cont	IOI IICIWOIK.
(U) <u>FY 1997</u> - (T)	Network Onerations Unorade Program:		
(5) - (U) 531 500	Continue software development of Resource Scheduling and Inter-Range Operations. Continue implementing plug-and-use architecture with	ge Operations. Continue implementing plug-	ind-use architecture with
\$31,500 - (U)	modifications to the Standard Satellite Control System for integration into the first SOC. Scheduled completion FYUL. Range and Communications Development Program:	into the first SOC. Scheduled completion FYO	II.
(U) (38 500	Continue supporting hardware and software installation of standardized COTS archival recorder units at Remote Tracking Stations (RTS).	d COTS archival recorder units at Remote Tra	cking Stations (RTS).
000,000	Operational Traffic Switch System replacement efforts by initiating development efforts. Scheduled completion FY01. Continue supporting	velopment efforts. Scheduled completion FY0	1. Continue supporting
(Ú) -	development enous win engineering analysis. Continue developing user-requested modifications to the communications and range segment. Development Support: Funding to support engineering analysis and cost estimating support for future planned projects.	ser-requested modifications to the communica cost estimating support for future planned proj	nons and range segment. ects.
\$1,060 - (U)	Network Integration and Systems Engineering: Continue system e	neering: Continue system engineering and integration of network hardware/software to meet evolving	re/software to meet evolving
	Page 3 of 8 Pages	ages	Exhibit R-2





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PENUMBER AND TITLE 0305110F Satellite Control Network (Space)	1
PROJECT NO. AND NAME 3276 Satellite Control Network		
satellite program requirements at Onizuka <u>Total</u>	AFB, Falcon AFB, and the RTS's.	
096'68\$		
	~	
	Page 4 of 8 Pages Exhibit R-2	it R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FICATIO	N SHEET (R-2 Exhib	it)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0305110F Sate	गा⊓∟E Satellite C	Satellite Control Network (Space)	_
PROJECT NO. AND NAME 3276 Satellite Control Network					
(U) B. Program Change Summary (S in Thousands)		·			
(U) Appropriated Value	FY 1995 79,232 83,000	FY 1996* 89,717 84,617	FY 1997 95,435	Total Cost Continuing	
(U) Adjustments to Appropriated value a. Cong Gen Reductions b. SBIR c. Omnibus and Other Above Threshold Reprogram	-2,213 -1,534 -5,780**	-3,497 -1,968 -322			
 d. Below Intestroid Reprogramming (U) Adjustments to Budget Years since FY 96 PB (U) Current Budget Submit/President's Budget 	-4,148 69,325	78,830	-5,475 89,960	Continuing	
 (U) Change Summary Explanation: * The FY96 PB amount does not reflect funding reductions that are reserved for other DoD reprogramming needs (\$884) ** Number does not reflect additional ATR approved in Dec 95 for CSEL (\$9,635). Funding: Reductions due to Omnibus reprogramming action and undistributed Congressional reductions. Adjusted FY95 for actuals, and outyear funding based on more definitive planning data. 	that are rese ec 95 for CSE n and undistr	rved for other DoI 3L (\$9,635). ibuted Congressio	reprogrammi nal reductions	ng needs (\$884) Adjusted FY95 for a	ctuals, and outyear funding based
Schedule: Adjusted schedule based on more definitive program planning data	gram planning	g data.			
Technical: Not Applicable.					
(U) C. Other Program Funding Summary (\$\sumset\$ in Thousands)					T.o. T.o.1
(U) Other Procurement, Budget Activity: 83, 25,629 Program Title: AFSCN, BPAC 83440	FY 1996 FY 25,319]	FY 1997 16,144 31,336	FY 1999 35,788	FY 2000 37,333 37,883	Compl Continue Con
	Pa	Page 5 of 8 Pages			Exhibit R-2
		1437			



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RDT&E BUDGET ITEM JU	SOF WE	IIFICAT	IS NO!	HEET (R	STIFICATION SHEET (R-2 Exhibit)	oit)		DATE Mai	March 1996	
BUDGET ACTIVITY 7 - Operational System Development			PE NU 030	PE NUMBER AND TITLE 0305110F Sate	ा⊤∟E atellite C	ontrol	Satellite Control Network (Space)	pace)		
PROJECT NO. AND NAME 3276 Satellite Control Network										
Related RDT&E: (U) Not Applicable.	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	To Compl	Total <u>Cost</u>	
(U) D. Schedule Profile	FY 1995		Ţ	FY 1996		FY 1997	76			
	2 3	4	1 2	<u>س</u>	4	2	4			
(U) Provide prototype common workstations/local area network (C2)			×							
(U) Award Range and Communications	×		×							
Use Explainment Contract (NCDC) (U) Award Network Operations Upgrade Contract				×						1 1 111
(U) Deliver standardized telemetry				×						
(U) Begin installation of telemetry					×					
(U) WANIU production on contract (U) Deliver CC&M demonstration			××							
prototype (U) Complete installation of baseline							×			
CU&Ms (U) Complete specification development				×						
for distributed workstation architecture (U) Begin Solid State Switch replacement engineering analysis				×						
			Page 6 of 8 Pages	8 Pages				Exhibit R-2		
7			1438	~						

RDT&E BUDGET ITEM JUS	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305110F Satellite Control Network (Space)	
PROJECT NO. AND NAME 3276 Satellite Control Network		
(U) Complete prototype of distributed workstation control architecture (U) Complete installation of telemetry recorders in RTS (1Qtr/ FY99) (U) Begin WANIU installation (1 Qtr/FY98) (U) Begin Range Upgrade engineering analysis (1 Qtr/FY98) (U) Begin antenna upgrade analysis and preliminary design (2 Qtr/FY98) (U) Begin Enhanced Tracking Station analysis (1 Qtr/FY99) (U) Begin Global Grid Connectivity engineering analysis (1 Qtr/FY90)	4	
	Page 7 of 8 Pages 1439	Exhibit R-2
	UNCESSIFIED	



RDT&E PROGRAM ELEMENT/PROJ	PROJECT COST BREAKDOWN (R-3)	BREAKD	OWN (R-3)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUN 0305	PE NUMBER AND TITLE 0305110F Sate	Satellite Control Network (Space)	
PROJECT NO. AND NAME 3276 Satellite Control Network				
(U) A. Project Cost Breakdown (\$ in Thousands)				
	FY 1995	FY 1996	FY 1997	
(U) Command and Control Segment (Network Operations	14,075	30,700	31,500	
Upgrade) (U) Range and Communications Development	16,000	35,000	38,500	
(U) Development Support (U) Network Integration and Systems Engineering	8,800 20,815	34 / 12,783	18,900	
(U) Approved for Above Threshold Reprogramming for CSEL (U) Total	9,635 69,325	78,830	89,960	
(U) B. Budget Acquisition History and Planning Information (S in (U) Not Applicable.	ion (S in Thousands)			
	Page 8 of 8 Pages	8 Pages		Exhibit R-3

RDT&E BUDGET ITEM JUSTIFICATION	STIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0305111F Weather Service	
PROJECT NO. AND NAME		

PROJECT NO. AND NAME

2738 Weather Service

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
2738 Weather Service	19,268	5,360	5,126	9,347	8,728	12,053	12,341	Continuing	Continuing

NOTE: FY94 funding is in PE #604707F. Starting in FY95, PE #604707F RDT&E funds were assigned to PE #305111F to consolidate RDT&E, Procurement, and O&M funds for all weather support resources under PE #305111F.

(U) A. Mission Description and Budget Item Justification

systems; (b) Solar Electro-Optical Network Upgrade (SEON II); improves capability to detect hazardous solar activity for DoD space operations; (c) Combat Weather Weather Analysis and Prediction System (GTWAPS); acquires theater weather models and associated hardware to improve AFGWC's theater support capabilities; (f) needs of worldwide Air Force and Army operations. Efforts include: (a) Automated Weather Distribution System (AWDS) Pre-Planned Product Improvement (P31); supportability. This effort is in Budget Activity 7, Operational Systems Development, because it supports software development and system test associated with the Forecast System II (CDFS II); replaces logistically unsupportable mainframe computers at the Air Force's Global Weather Central (AFGWC) and upgrades satellite This program provides for the modification, sustainment, and acquisition of meteorological hardware and software needed to support the observing and forecasting Tactical Weather Radar (TWR); provides lightweight, portable Doppler weather radar to support combat flight operations worldwide, (g) Space Weather Analysis data processing, cloud depiction and forecasting, and classified weather support functions for operational commanders and national programs; (e) Global Theater and Forecast System (SWAFS) replaces aging 50th Weather Squadron (AFSPC) hardware and software to move to a more efficient computing environment, (h) System (CWS); provides a small, tactical observing and forecasting capability with C4I connectivity for worldwide combat operations; (d) Cloud Depiction and improves the timeliness of AWDS functions and ensures interoperability with customer command, control, communications, computers and information (C41) upgrade and replacement of currently operational systems, systems already in production, and systems with approved production funds in the DoD budget. studies associated with Air Force Combat Climatology Center Replacement (AFCCCR) which replaces aging hardware and software to enhance system

(U) FY 1995

Page 1 of 6 Pages



		RDT&E BUDGET ITEM JUSTIFICATION	TIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDG 7 - (BUDGET ACTIVITY 7 - Operational	BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305111F Weather Service	
PROJ 273	PROJECT NO. AND NAME 2738 Weather Service	ME rvice		
	(U) \$ 5,350 (U) \$ 4,900 (U) \$ 255 (U) \$ 255 (U) \$ 149 (U) \$ 7,500 (U) \$ 7,500 (U)\$19,268	AWDS/P31: Completed inter-AWDS capability; completed software development for meteorological satellite interface. CWS: Completed TFS software upgrading and testing efforts. SWAFS: Performed system requirements analysis. AFCCR: Performed technical assessment of system requirements, developed preliminary architecture and associated cost estimates. SEON II: Provided technical support during system evaluation. GTWAPS: Monitored system design activities and system acquisition requirements and investigated existing contractual vehicles. CDFS II: Began development of classified support functions and cloud depiction and forecast software. Total	bility; completed software development for meteorological satellite interfund testing efforts. and testing efforts. analysis. of system requirements, developed preliminary architecture and associate it system evaluation. it system evaluation. ities and system acquisition requirements and investigated existing contrastings and system and cloud depiction and forecast software.	d cost estimates.
11111	(U) \$4,904 (U) \$4,904 (U) \$ 382 (U) \$ 57 (U) \$ 17 (U) \$5,360	CDFS II: Continue development of cloud depiction and forecast software. GTWAPS: Complete trade-off studies and conduct Milestone I/II review. SWAFS: Develop technical alternatives. TWR: Begin trade-off studies.	ecast software. ne I/II review.	
11111	(U) <u>FY 1997</u> (U) \$3,269 (U) \$1,357 (U) \$ 250 (U) \$ 250 (U) \$ 250	CDFS II: Complete development of cloud depiction and forecast software; prepare for FY98 production/int GTWAPS: Initiate software development; prepare for FY98 hardware purchase/integration contract award SWAFS: Prepare for and conduct Milestone I/II/III review. TWR: Complete trade-off studies; conduct Milestone I review. Total	depiction and forecast software; prepare for FY98 production/integration contract award. prepare for FY98 hardware purchase/integration contract award. ne I/II/III review. t Milestone I review.	contract award.
		Pa	Page 2 of 6 Pages	Exhibit R-2

RDT&E BUDGET ITEM JUS	JUSTIFICATION	ON SHEET	TIFICATION SHEET (R-2 Exhibit)	bit)		DATE March 1996	966
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0305111F Weal	PE NUMBER AND TITLE 0305111F Weather Service	Service			
PROJECT NO. AND NAME 2738 Weather Service							
(U) B. Program Change Summary (S in Thousands)		į		Total			
	FY 1995	FY 1996*	FY 1997	Cost	- +		
(U) Previous President's Budget	20,990	5,771	5,308	Cont			
	20,990	5,771					
(U) Adjustments to Appropriated Value							
a. Cong Gen Reductions	-280	-224					
b. SBIK	-437	-116					
c. Omnibus or Other Above Threshold Reprogram	-1,000	-71					
d. Below Threshold Reprogramming	٠.						
(U) Adjustments to Budget Years Since FY96PB	10 268	092 \$	-187 - 136	Jon	•		
(O) Current Duaget Submitte restacint & Duaget	17,200	000,0	2,120		_		
(U) Change Summary Explanation: Funding: * The FY96 PB amount does not reflect funding reductions that are reserved for other DoD reprogramming needs (\$60) Changes in 1997 due to inflation rate change (-\$156) and overhead Reduction (-\$26).	reductions that are re 156) and overhead Re	eserved for othe duction (-\$26).	r DoD reprogran	nming needs (\$	(09)		
Schedule: Satellite Data Handling System (SDHS) II delayed because of interim improvements made to SDHS system. SWAFS efforts beginning earlier to minimize maintenance costs and improve capabilities at AFSPC's 50th Weather Squadron.	II delayed because cities at AFSPC's 50th	of interim impre Weather Squae	wements made tα ron.	SDHS system	ı. SWAFS e	fforts beginning ea	rlier to
Technical: No changes.							
(U) C. Other Program Funding Summary (\$ in Thousands)	ands)						
						To	
Enter Procurement, Air Force, Weather	FY 1995 FY 1996 14,858 6,293	FY 1997 FY 6,485	FY 1998 FY 1999 13,211 19,147	$\frac{9}{7}$ EY 2000 $\frac{29,982}{}$	FY 2001 25,992		nt nt
Service (Only includes procurement funds for investment programs described in this R-2 exhibit)	s described in this R-2	2 exhibit)					

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit) DATE March 1996
ВИDGET АСТІИТУ 7 - Operational System Development	PE NUMBER AND TITLE 0305111F Weather Service
PROJECT NO. AND NAME 2738 Weather Service	
Related RDT&E: (U) PE #603707F, Weather Systems Advanced Development (U) PE #305160F, Defense Meteorological Satellite Program (U) PE #603434F, National Polar-orbiting Operational Environmental Satellite System (U) PE #207438F, Theater Battle Management C4I (U) PE #208006F, Air Force Mission Planning Systems	ystem
(U) D. Schedule Profile 1 2 3 4 1 2 3 4 1 (U) AWDS P3I Contract Award (ECPs) (U) CWS TFS Software Complete (U) SEON II Prototype Complete (U) CDFS II RFP Release/Contract Award (U) GTWAPS Milestone 1 (U) SDHS II Milestone 1 (U) TWR Milestone 3 Milestone 3	FY 1996 2 3 4 1 2 3 4 X X X X X X X X X X X X X
Pa	Page 4 of 6 Pages

RDI	RDT&E PROGRAM ELEMENT/	RAM EL	EMENT/PR	OJECT	COST B	REAKD(PROJECT COST BREAKDOWN (R-3)	3)	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	System De	velopmen	<u> </u>		PE NUMBER AND 0305111F	PE NUMBER AND TITLE 0305111F Weath	DITITE Weather Service	0			
PROJECT NO. AND NAME 2738 Weather Service	MME :rvice										
(U) A. Project Cost Breakdown (S in Thousands)	st Breakdown (§ in Thousand	<u>(8b</u>	FY 1995		FY 1996	FY 1997				
 (U) 1st Article Development (U) System Software Integration (U) System Engineering Support (U) Contractor Engineering Support 	1st Article Development System Software Integration System Engineering Support Contractor Engineering Support			4,021 3,875 5,400 1,025		0 0 1,300 145	214 214 900 500 3 074				
(U) Travel (U) Program Management Support	gement Support			350 350 597 0		2,475 150 290 0	341 0				
	100			19,268		5,360	5,126				
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands) Performing Organizations: Contractor or	quisition Historizations: Contract	y and Plannii	ng Information (§	s in Thousar	(spi						
Government Performing <u>Activity</u>	Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations Philling I ah MIPR	nt Organizations MTPR	<u>s</u> May 94	270	270	270	C	0	0	0	270	
CalTech	LOE	Jun 94	TBD	TBD	1,087	85	0	0	0	1,172	
CSC GTE	LOE FFP/PR	Jan 94 Oct 90	15,676	15,676	603 10,555	1,524	0	0	0	2,12 <i>/</i> 13,064	
PRISM (Raytheon)	1.0E	Jan 93	TBD	TBD	1,555	1,942	00	0 0	0 0	3,497	
Sterling Air Weather Svc	CPAF MTPR	Jun 95 4FV95	000 0	2 900	00	3,900	4,054	2,419	4,400	14,773	
(CDFS II related effort)	<u> </u>	2 1		ì		ì					
				P_{ℓ}	Page 5 of 6 Pages	ses			Exhibit R-3	R-3	





RDT&E PROGRAM ELEMENT	OGRAM EI		/PROJECT	COST BREAKDOWN (R-3)	REAKD(JWN (R-	3)	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	Developme	 		PE NUMBER AND TITLE 0305111F Weat	AND TITLE	PE NUMBER AND TITLE 0305111F Weather Service	0			
PROJECT NO. AND NAME 2738 Weather Service										
tor or nent ing	<u>8</u>	Performing Activity	Project Office	Total Prior to	Budget	Budget	Budget	Budget to	Total	
Activity Vehicle Hughes DNA MIPR	<u>Date</u> Sep 95 Jan 95	EAC 1,682 100	EAC 1,682 100	FY 1995 0 0	$\frac{\text{FY } 1995}{1,682}$	FY 1996 0 0	$\frac{\text{FY } 1997}{0}$	Complete 0 0	<u>Program</u> 1,682 100	
5S studies)						57	150		240	
(TBD) GTWAPS (TBD) CPIF/FP						300	807	6,052	7,259	
Support and Management Organizations Electronic Systems Center (ESC) Space and Missile Center (SMC) MITRE/Aerospace/TEMS	nizations ()			632 0 1,009		150 250 532	348 250 1,002	Cont	Cont Cont	
Test and Evaluation Organizations Not Applicable.	<u>suc</u>									
(U) B. Budget Acquisition History and Planning Information Continued (\$\sin\$ in Thousands) Government Furnished Property: Not Applicable.	story and Plann rty:	ing Information (Continued (S	in Thousand	ଷ					
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	ent			7,550	15,246 4,022	4,428 932	3,526 1,600	Cont Cont	Cont Cont	
Project Total				9,191	19,268	5,360	5,126	Cont	Cont	
										· · · · · ·
			Pa	Page 6 of 6 Pages	sə			Exhibit R-3	R-3	

RDT&E BUDGET ITEM JUS	STIFICA	TIFICATION SHEET (R-2 Exhibit)	HEET (R	-2 Exhil	bit)		DATE M	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development		PE NU 030	PE NUMBER AND TITLE 0305114F Traff	⊓⊓∟E raffic Co	PE NUMBER AND TITLE 0305114F Traffic Control, Approach, and Landing Systems	proach,	and Land	ling Syst	ems
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	6,933	3,719	3,870	1,762	1,110	7,519	6,013	Continuing	TBD
2026 System Support	274	195	423	268	280	253	268	Continuing	ТВО
3587 Precision Landing Development	69'9	3,524	3,447	1,494	830	7,266	5,745	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

Services, the Federal Aviation Administration (FAA) and the ICAO. Project 3587 was originally established for development of Military Microwave Landing System program to transition Air Force operations from the use of Precision Approach Radar (PAR) and Instrument Landing System (ILS) to the Microwave Landing System protection from interference problems forecasted to occur after 1998. The CMLSA continues to be installed on C-130 aircraft to meet a specific short-term precision landing mission requirement for tactical airlift. This program is in budget activity 7 - Operational System Development because it is upgrading avionics in currently (MLS) for precision approach and landing. Due to the emergence of the Global Positioning System (GPS) as more cost effective solution (available after 2000), the Avionics (MMLSA) and acquisition of the commercially developed Commercial Microwave Landing System Avionics (CMLSA). Originally part of a twenty year precision landing technology. Current Air Force receivers do not meet the new specification required by the International Civil Aviation Organization (ICAO) for Project 2026 funds ongoing liaison and interagency cooperative studies, between the USAF ATCALS program office and various organizations to include other effort is now being redirected to develop replacement box for ILS avionics to sustain precision landing capability until GPS becomes available as the follow-on fielded weapon systems.

(U) Acquisition Strategy: Engineering Manufacturing Development, Fixed Price Incentive Fee (FPIF), Completion FY98, No NDI

(U) B. Program Change Summary (S in Thousands)

	FY 1995	FY 1996	FY 1997	Cost	
(U) FY 1996 President's Budget	7,103	3,968	4,007	TBD	
(U) Appropriated Value	7,103	3,968			
(U) Adjustments to Appropriated Value	-170	-249			
a. Cong Gen Reductions		-138			
	Pas	ge 1 of 10 Pages			Exhibit R-2

Total





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R	2 Exhibit)		DATE March 1996	
вирсет Астіміту 7 - Operational System Development	PE NUMBER AND TITLE 0305114F Traff	⊤∟E 'affic Control, App	roach, aı	PENUMBER AND TITLE 0305114F Traffic Control, Approach, and Landing Systems	
b. Small Business Inovative Research c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/President's Budget 6,933	<u>FY 1996</u> -79 -32 3,719	FY 1997 Cost -137 TBD			
(U) Change Summary Explanation: Funding: FY 1996, FY 1997, and FY 1998 funding decreases in are due to other Air Force priorities, resulting in a reduction in the scope of planned RDT&E activities and a program restructure.	to other Air Force p	riorities, resulting in a rec	duction in tl	ie scope of planned RDT&E	
Schedule: N/A Technical: N/A					
FY 1996 2465	FY 1997 FY 1998 151	FY 1999 FY 2000 158 5136	FY 2001 5141	To Total Compl Cost cont TBD	
Kelated RU 1 & E. 1 V. A.	Page 2 of 10 Pages			Exhibit R-2	

RDT&E BUDGET ITEM JI	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305114F Traffic Control, Approach, and Landing Systems	and Landing Systems
(U) D. Schedule Profile FY 1995	<u>FY 1996</u> FY 1997	
(U) Acquisition Milestones: (U) Milestone III	3 4 1 2 3 4 1 2 3 4	
 (U) Contract Milestones (U) Award Precision Landing ECO (U) Initial MMLS Delivery (U) Initial TRV Delivery 	×	
 (U) Test and Evaluation Milestones (U) TRV First Article Complete (U) TRV Operational Testing 	×	
Complete (U) Other (U) MMLS IOC (U) CMLSA Depot Activation	×	
		:
	rage 5 of 10 rages	EXIIIDIL K-Z
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	FION SE	HEET (R	-2 Exhit	oit)		DATE N	March 1996	6
BUDGET ACTIVITY 7 - Operational System Development		PE NU 030	PE NUMBER AND TITLE 0305114F Traff	ાπ∟દ raffic Co	ntrol, Ap	proach,	and Lanc	PE NUMBER AND TITLE 0305114F Traffic Control, Approach, and Landing Systems	sms
PROJECT NO. AND NAME 2026 System Support									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
2026 System Support	274	195	423	268	280	253	268	Continuing	TBD
(U) A. Mission Description and Budget Item Justification This continuing effort funds ongoing liaison and interagency cooperative studies, as well as interoperability analyses between the USAF Air Traffic Control and Landing Systems (ATCALS) program office and various organizations which include the other services, the FAA and the ICAO. Continues mission support for the ATCALS programs including several joint efforts with the FAA. RDT&E funds are used to resolve or minimize technical interface problems associated with interoperability between existing or planned DOD/FAA ATCALS equipment and capabilities. (U) FY 1997 (\$\$\$\$ in Thousands): (U) 67 Continue support for all ATCALS projects. (U) 230 Continue interoperability and interface evaluations. (U) 230 Continue support for the portable precision landing system studies for the Joint Special Operations Command (JSOC) (U) 423 Total	ncy cooperativorganizations e FAA. RDT TCALS equiprojects.	ve studies, as which inclu &E funds ar ment and ca ment ang ca is.	s well as inte de the other e used to res pabilities. adies for the	sroperability services, the solve or mini Joint Specia	analyses bet FAA and the mize technical Operations	ween the U he ICAO. Cal interface Sal interface Command	SAF Air Tre continues mi problems a (JSOC)	iffic Control assion support	and for the
(U) B. Program Change Summary (\$ in Thousands)	100 t X3		1005	EV 1007	<u>ද</u> ද	Total			
(U) FY 1996 President's Budget (U) Appropriated Value	274 274 274		373	436) E	<u> </u>			
	274	4	-6 -79 -3	-13	Ë	TBD			
		Page 4 of 10 Pages	10 Pages		:		Exhibit R-2	2-2	
		•							

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305114F Traffic Control, Approach, and Landing Systems	nd Landing Systems
PROJECT NO. AND NAME 2026 System Support		
(U) Change Summary Explanation: Funding: Programmatic adjustments.		
Schedule: N/A		
Technical: N/A		
(U) C. Other Program Funding Summary (\$ in Thousands) N/A		
(U) D. Schedule Profile FY 1995	FY 1996	
$P_{\mathcal{C}}$	Page 5 of 10 Pages	Exhibit R-2





RDT&E PROGRAM ELEMENT/PROJ	/PROJECT COST BREAKDOWN (R-3)	REAKDOWN (R-3) DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305114F Traff	AND TITLE F Traffic Contr	D TITLE Traffic Control, Approach, and Landing Systems
PROJECT NO. AND NAME 2026 System Support			
(U) A. Project Cost Breakdown (\$ in Thousands)			
	FY 1995 FY	FY 1996 FY 1997	7
(U) System Engineering	70	77 80 60 139	0
	45		. 4
(U) Frogram Management Support (U) Travel	07		0
(U) Total	274	195 423	3
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	<u>(housands)</u>		
Performing Organizations: AFMC, ESC, Hanscom AFB, MA manages the overall ATCALS effort. Mitre Corporation, Bedford, MA, provides technical and engineering support.	s the overall ATCALS	effort. Mitre Corpor	ation, Bedford, MA, provides technical and
	Dage 6 of 10 Dages	32	Exhibit R.3
	I ake o of to La	62	

RDT&E BUDGET ITEM JUS	STIFICA.	ION S	TIFICATION SHEET (R-2 Exhibit)	-2 Exhi	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development		PE NI 030	PE NUMBER AND TITLE 0305114F Traff	ιπιε raffic C o	ntrol, Ap	proach,	and Lanc	PENUMBER AND TITLE 0305114F Traffic Control, Approach, and Landing Systems	ems
PROJECT NO. AND NAME 3587 Precision Landing Development									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3587 Precision Landing Development	6;659	3,524	3,447	1,494	830	7,266	5,745	Continuing	TBD
(U) A. Mission Description and Budget Item Justification The Departments of Defense and Transportation have a goal to develop and acquire a common civil/military precision approach and landing system that is capable of operating with Category I, II, or III signal guidance accuracy. The International Civil Aviation Organization (ICAO) and NATO designated worldwide implementation of PLS for January 1988 with the Microwave Landing System (MLS) as the standard. Due to the emergence of the Global Positioning System (GPS), as a more cost effective solution, the Air Force's precision landing development has been redirected to develop a replacement box for ILS to support a precision landing capability until GPS becomes available. GPS is expected to be available in FY 2000. This replacement box capability will allow DOD to meet the ICAO requirements for FM frequency protection. This is especially critical in Europe where there is a high density of FM radio stations. The Air Force has a worldwide deployment commitments and large numbers of it's aircraft have a requirement for compliance with the ICAO Standards and recommended practices.	develop and the Internation (S) as the start redirected This replaction in high density the ICAO States	acquire a co nal Civil Av ndard. Due to develop a ement box c of FM radi	umon civil/ viation Orga to the emer, replacemen capability wi io stations. I	military prediction (IC gence of the t box for IL.) Il allow DOI The Air Force led practices	cision appro AO) and NA Global Posi S to support O to meet the	ach and lanc NTO designa tioning Syste a precision I e ICAO requ dwide deplo	ling system to the worldwing system to (GPS), and anding capa irrements for syment committees.	develop and acquire a common civil/military precision approach and landing system that is capable of he International Civil Aviation Organization (ICAO) and NATO designated worldwide implementatio.S) as the standard. Due to the emergence of the Global Positioning System (GPS), as a more cost effer redirected to develop a replacement box for ILS to support a precision landing capability until GPS. This replacement box capability will allow DOD to meet the ICAO requirements for FM frequency high density of FM radio stations. The Air Force has a worldwide deployment commitments and larg the ICAO Standards and recommended practices.	e of tation of effective PS cy large
 (U) FY 1995 (\$ in Thousands): (U) 930 Identified technical approaches to upgrade the current IL.S (U) 4,347 Began development of a precision landing capability (U) 552 Continued the National Precision Approach Strategy Study (U) 830 Performed platform integration and system engineering analyses (U) 6,659 Total 	grade the cunding capabil pproach Stratesystem engin	rent ILS lity egy Study eering analy	ses/						
 (U) FY 1996 (\$\\$\\$\\$\\$\\$\\$\\$\\$\ in Thousands): (U) 2,296 Continue development of a precision landing capability (U) 208 Continue the National Precision Approach Strategy Study (U) 635 Continue to perform platform integration and system engineering analyses (U) 385 Begin PLS flight certification (U) 3,524 Total 	. landing capa proach Strateg ation and syst	ubility sy Study cem enginee	ring analyse	ø					
 (U) FY 1997 (\$\\$\$ in Thousands): (U) 2,102 Continue development of a precision landing capability (U) 100 Continue the National Precision Approach Strategy Study 	landing capa proach Strateg	ibility gy Study Page 7 of 10 Pages	10 Pages				Exhibit R-2	2-5	:



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R.	2 Exhibit)		DATE Marc	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305114F Traff	⊤∟E affic Contro	Traffic Control, Approach, and Landing Systems	and Landing	Systems
PROJECT NO. AND NAME 3587 Precision Landing Development					
 (U) 520 Continue to perform platform integration and system engineering analyses (U) 725 Continue PLS flight certification (U) 3,447 Total 	n engineering analyses				
(U) B. Program Change Summary (S in Thousands)					
	FY 1996 3,685 3,685 -161	<u>57 1997</u> 3,551	Total <u>Cost</u> TBD		
 b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/President's Budget 	3,524	-104 3,447	TBD		
(U) Change Summary Explanation: Funding: Funding decreases in FY96 and FY97 are due to higher Air Force priorities which has resulted in a reduction in the scope of planned RDT&E activities and a program restructure.	Force priorities which	has resulted in a	reduction in the sc	ope of planned F	UT&E activities
Schedule: N/A					
Technical: N/A					
U) C. Other Program Funding Summary (S in Thousands)				Ę	Total
(U) Aircraft Procurement AF Budget Activity 5, 3,287 2,465 Weapon System Code 3587	FY 1997 FY 1998 151	FY 1999 FY 158	FY 2000 FY 2001 5,136 5,141	Compl cont	Cost
	Page 8 of 10 Pages			Exhibit R-2	

RDT&E BUDG	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	opment	PE NUMBER AND TITLE 0305114F Traffic Control, Approach, and Landing Systems	and Landing Systems
PROJECT NO. AND NAME 3587 Precision Landing Development	ent		
Related RDT&E: N/A			
(U) Acquisition Milestones: (U) Milestone III (U) Contract Milestones (U) Award Precision Landing ECO (U) Initial MMLS Delivery (U) Test and Evaluation Milestones N/A (U) Other (U) MMLS IOC (U) CMLSA Depot Activation	$\frac{\text{FY 1995}}{2}$ 4 1	FY 1996 2 3 4 1 EY 1997 X X X X X X	
	Pag	Page 9 of 10 Pages	Exhibit R-2
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RDT&F PROGRAM ELEMENT/P	PROJECT COST BREAKDOWN (R-3)	OST BRE	AKDO	WN (R-3		DATE	March 1996	
		PE NUMBER AND TITLE 0305114F Traff	Traffic	Control,	Approach	, and Lan	PENUMBER AND TITLE 0305114F Traffic Control, Approach, and Landing Systems	
PROJECT NO. AND NAME 3587 Precision Landing Development								
(U) A. Project Cost Breakdown (S in Thousands)								
	FY 1995	FY 1996	91	FY 1997				
 (U) Primary Hardware Development (U) Test and Evaluation Support (U) Engineering/Technical Support (U) Avionics Integration Efforts (U) Program Management Support (U) Travel (U) Total 	4,347 208 454 1,435 175 40 6,659	2,529 215 540 110 90 40 3,524	229 115 440 110 90 440 524	2,152 725 240 217 90 23				
(U) B. Budget Acquisition History and Planning Information (S in Thousands):	(S in Thousand	<u>;(s</u>						
Performing Organizations:								
Contractor or Contract Government Method/Type Award or Performing Performing or Funding Obligation Activity Activity Date EAC	Project Office EAC	Total Prior to FY 1995 F	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations GEC Marconi FPIF Jun 93 18.0	18.0	6.1	3.5	2.2	2.5	Continue	TBD	
Support and Management Organizations No contract or government effort in excess of \$1.0 million.								
	Page	Page 10 of 10 Pages	5			Exhibit R-3	R-3	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION S	HEET (۲-2 Exhi	bit)		DATE	March 1996	တ
BUDGET ACTIVITY 7 - Operational System Development		PE N 03	PE NUMBER AND TITLE 0305119F Medi	⊃ πτιε Medium Launch Vehicles (Space)	aunch V	ehicles (Space)		
PROJECT NO. AND NAME 624A Medium Launch Vehicle				-					
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
624A Medium Launch Vehicle	19,717	20,683	13,683	13,073	22,993	33,155	33,369	22,426	528,623
(U) A. Mission Description and Budget Item Justification National Security requirements dictate a continuing, highly reliable means of placing critical Department of Defense (DoD) satellites into required orbits. Assured access to space, directed by the President in the National Security Launch Strategy, will be accomplished through the use of a robust mix of Expendable Launch Vehicles (ELVs). The Medium Launch Vehicle (MLV) program provides sustainment, procurement and launch of DoD ELVs, including Atlas II and Delta II at Cape Canaveral AFS, FL and at Vandenberg AFB, CA. This program also provides for engineering support of active launch programs and post-flight assessment of DoD ELVs to maintain their high reliability. The preceding tasks require the funds to be in Operational Systems Development research category.	y reliable m ecurity Lau rogram prov his program ng tasks req	eans of plac nch Strategy ides sustain t also provic uire the fun	ing critical I , will be acc ment, procu les for engin ds to be in O	Department complished the rement and la rement and la recering supporterational Symptopians of the control of t	of Defense (E trough the us nunch of Dol rt of active l	oD) satellitise of a robu. SEVS, included annch programment res	es into requi st mix of Ext sluding Atlas ams and pos earch catego	y reliable means of placing critical Department of Defense (DoD) satellites into required orbits. Assured security Launch Strategy, will be accomplished through the use of a robust mix of Expendable Launch rogram provides sustainment, procurement and launch of DoD ELVs, including Atlas II and Delta II at this program also provides for engineering support of active launch programs and post-flight assessment of tasks require the funds to be in Operational Systems Development research category.	ssured nch II at sment of
 (U) FY 1995 (\$\frac{\psi}\$ in Thousands): (U) \$\frac{53,209}{53,209} Completed Delta II range safety compliance vehicle upgrades (U) \$\frac{1}{5},822 Continued GPS IIR mission integration and complete site activation (U) \$\frac{1}{5},169 West Coast Atlas II activation continues (U) \$\frac{2}{5},368 Base support and environmental programs (U) \$\frac{2}{5},368 Base support and mission support for MLV launch facilities, infrastructure, and launch operations includes space launch complexes (U) \$\frac{2}{5},805 Continued austere improvements to MLV (U) \$\frac{2}{5},805 Continued austere improvements to MLV 	pliance vehi ion and com wes grams support for l ss	cle upgrade plete site ac MLV launcl	s tivation n facilities, i	nfrastructure	, and launch	operations	includes spa	e launch cor	sexeldi
 (U) FY 1996 (\$ in Thousands): (U) \$4,806 Complete Delta II range safety required facility upgrades this year, first flight with new upgrades this year (U) \$4,806 Complete Delta II range safety required facility upgrades this year, first flight with new upgrades this year (U) \$1,117 West Coast Atlas II activation continues (U) \$1,117 West Coast Atlas II activation continues (U) \$10,913 Base support and environmental programs (U) \$10,913 Sustaining engineering and mission support for MLV launch facilities, infrastructure, and launch operations includes space launch complexes (U) \$20,683 Total 	red facility uesson mes on grams support for 1	pgrades thi	s year, first in facilities, i	flight with ne	w upgrades	this year operations	includes space l	ce launch cor	ıplexes
		rage 1 o	Page 1 of 3 Pages				באוווטוו ר	7-)	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R	-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305119F Medi	ITLE edium Laur	TITLE Medium Launch Vehicles (Space)	pace)
PROJECT NO. AND NAME 624A Medium Launch Vehicle				
 (U) FY 1997 (\$\frac{\pmathrm{fin}}{1000}\$ in Thousands): (U) \$2,780 Base support and environmental programs (U) \$1,688 West Coast Atlas II activation continues (U) \$1,688 West Coast Atlas II activation continues (U) \$2,337 Delta II range required facilities upgrade (U) \$6,563 Sustaining engineering and mission support for MLV launch facilities, infrastructure, and launch operations includes space launch complexes 3, 17, and 36 and supporting facilities (U) \$13,368 Total 	aunch facilities, inf	rastructure, and	launch operations in	cludes space launch complexes
(U) B. Program Change Summary (S in Thousands)			E F	
(U) Previous President's Budget (U) Appropriated Value (II) Adjustments to Appropriated Value	FY 1996* 21,898	<u>FY 1997</u> 16,323	Cost	
	- 429			
d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1995 PB (U) Current Budget Submit/President's Budget	20,683	- 2,955 13,368	528,623	
 (U) Change Summary Explanation: Funding: FY97 includes a funding execution adjustment (-2,300), an adjustment due to inflation (-574) and an overhead adjustment (-81). * The FY96 PB amount does not reflect funding adjustments that are reserved for other DoD reprogramming needs (\$229) 	justment due to infla erved for other DoD	ıtion (-574) and reprogramming	an overhead adjustn g needs (\$229)	lent (-81).
Schedule: Not Applicable				
Technical: Not Applicable				W-1
Pag	Page 2 of 5 Pages			Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ET ITE	IN JUSTI	FICATION	N SHE	ET (R-2	Exhibit		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	oment			PE NUMBER AND 0305119F	PE NUMBER AND TITLE 0305119F Medi	ium Lau	nch Vehic	ЭТІТЕ Medium Launch Vehicles (Space)	(e)	
PROJECT NO. AND NAME 624A Medium Launch Vehicle										
(U) C. Other Program Funding Summary (S in Thousands)	ry (\$ in T	housands)						E	F	
(U) Missile Procurement, Air Force	FY 1995 131,594	<u>FY 1996</u> 178,352	<u>FY 1997</u> 175,599	FY 1998 235,672	<u>FY 1999</u> 272,343	FY 2000 340,000	FY 2001 294,676	Complete 290,295	10tal <u>Cost</u> 3,514,400	
Related RDT&E: (U) Space & Missile Rocket Propulsion (PE #603302F) (U) Evolved Expendable Launch Vehicle (EELV, PE #6038531	3 #603302 EELV, PE	.F) ; #603853F)								
(U) D. Schedule Profile										
	-	FY 1995 2 3	4	$\frac{\text{FY } 1996}{2}$	996 3 4	-	$\frac{\text{FY } 1997}{2}$	4		
(U) Delta GPS Launch (U) Delta STP Launch				73	*X	*	*X *X	*×		
(U) Delta Mods for GPS Block IIR	×	×	×							
(U) Atlas Launches	×	× ×	×	×	×	×	×	*		·
(U) MLV Improvements (ALII) **NOTE: A storict Journal of Alias (Alias (; × ;	XXX	: ×:			:		:		
INO LE. ASICHISA Idulichies mulcate a Laume		in (FOIA) strain	Žģ.							-
	,		Pe	Page 3 of 5 Pages	sagt			Exh	Exhibit R-2	

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RDT&	RDT&E PROGRAM ELEMENT	M ELEME	NT/PROJECT	ECT CO	COST BREAKDOWN (R-3)	AKDOWI	N (R-3)	à	DATE March	March 1996
BUDGET ACTIVITY 7 - Operational System Development	ystem Develo	pment		를 0	PE NUMBER AND TITLE 0305119F Medi	TITLE Medium L	aunch Ve	אוזורנ Medium Launch Vehicles (Space)	ace)	
PROJECT NO. AND NAME 624A Medium Launch Vehicle	ich Vehicle							·		
(U) A. Project Cost Breakdown (\$ in Thousands)	sreakdown (S in Th	10usands)		FY 1995	FY 1996		FY 1997			
(U) Primary Hardware Development (U) Total	e Development			19,717 19,717	20,683 20,683		13,368 13,368			
(U) B. Budget Acquisition History and Planning Information (S in Thousands)	sition History and	Planning Info	rmation (S in	Thousands)						
Performing Organizations:	tions:									
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Product Development Organizations Martin Marietta FFP McDonnell Douglas FFP	<u>Organizations</u> FFP FFP	Jun 88 Sep 87	N/A N/A	N/A N/A	69,873 215,436	944 4,109	110 5,598	1,078 2,511	12,033 8,144	84,038 235,798
Aerospace GSAC Austere Improvements DMSP Integration	Various Various	Various Various	N/A	N/A	2,549 7,679	2,805	772	1,031	8,342	12,694 10,484 24,418
Support/Management Mission Support Various SMC Other Ktr Sup	FPI Various FFP	FY94 FY94 FY94	N/A N/A N/A	N/A N/A	1,079 48,716 140	8,241 317 317	10,243 219 106	4,374 642 118	38,353 17,229 794	61,469 67,123 1,475
(EER & MCR) Vandenberg Sup	Various	Various	N/A	N/A	1,045	700	989	992	0	3,195
				Page 4	Page 4 of 5 Pages				Exhibit R-3	
					1470					

RDT&E PROGRAM ELEMENT/	RAM ELEM	ENT/PR(DJECT	COST BI	PROJECT COST BREAKDOWN (R-3)	VN (R-3)		DATE Marc	March 1996
BUDGET ACTIVITY 7 - Operational System Development	elopment			PE NUMBER AND TITLE 0305119F Medi	PE NUMBER AND TITLE 0305119F Medium Launch Vehicles (Space)	Launch Ve	hicles (Sp	_	
PROJECT NO. AND NAME 624A Medium Launch Vehicle									
Contract Contract Government Method/Type or Performing Funding Activity Vehicle Environment/ Various	or Award or Obligation <u>Date</u> Various	Performing Activity <u>EAC</u> N/A	Project Office EAC A N/A	Total Prior to <u>FY 1995</u> A 3,322	Budget FY 1995 2,284	Budget <u>FY 1996</u> 2,950	Budget FY 1997 2,848	Budget to Complete 15,703	Total <u>Program</u> 27,107
Test and Evaluation Organizations Not Applicable									
(U) B. Budget Acquisition History and Planning Information Continued (\$\sumsymbol{s}\) in Thousands)	ind Planning Inf	ormation Co	ntinued (\$)	in Thousand	Ti.				
Government Furnished Property: Not Applicable	t Applicable								
Contractor or Government Performing Activity	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>			
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	295,537 54,302 0 349,839	7,858 11,859 0 19,717	6,480 14,203 0 20,683	4,620 8,748 0 13,368	52,937 72,079 0 125,016	367,432 161,191 0 528,623			
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			Pag	Fage 5 of 5 Pages	Si			Exhibit R-3	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION S	HEET (R	-2 Exhit	oit)		DAIE	March 1996	9
BUDGET ACTIVITY		PEN	PE NUMBER AND TITLE	ITLE					
7 - Operational System Development		030	3128F S	0305128F Security and Investigative Activities (S&IA)	nd Inves	tigative /	Activities	(S&IA)	
PROJECT NO. AND NAME 1931 TECH SURVEILL COUNTERMEASURE EQPMT									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
1931 TECH SURVEILL COUNTERMEASURE EQPMT	0	290	289	334	271	291	299	299 Continuing	TBD

A. Mission Description and Budget Item Justification

TECH SURVEILL COUNTERMEASURE EQPMT

The mission of the Air Force Office of Special Investigations (AFOSI) is to protect Air Force (AF) resources through specialized investigative support. This includes investigating criminal matters affecting AF personnel, contract fraud, and economic crimes involving AF weapons systems and spare parts, and the investigation of counterintelligence investigations and operations conducted by AFOSI. AFOSI's TSCM mission provides security assessments to both AF and DoD facilities and programs. While most research to meet operational requirements is Operational System Development, there is also research in the category of Engineering and environmental and counterdrug crimes. This element supports Technical Surveillance Countermeasures (TSCM) and technical support to criminal and Manufacturing Development due to a need for modifications to present technology.

effective in countering the increasingly complex devices used to thwart AF and DoD security. In an era of advancing technology, reduced manning, and increasingly The equipment required to conduct TSCMs and technical support to investigations is unique and complex. TSCM equipment must be continually updated to remain espionage, terrorist, narcotics or other criminal activity must be continually updated to ensure special agents have the best possible chance of thwarting criminal acts. effectively integrate automated software and hardware suites in support of TSCM surveys, nor does it have an effective technological means for the tracking of audio telephone, data, and voice interceptions as well as, capture actual criminal activity on video or still images. Additionally, the capability to track suspects engaged in AFOSI currently lacks the capability to support the interception of digital audio or telephone transmissions. In addition, AFOSI does not have the capability to high level fraud and environmental crime investigations, technical support equipment must be continually updated to enable the most cost effective and lawful and tagging type signals.

FY 1995 (\$ in Thousands):

Page 1 of 4 Pages

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вирсет Астіvіту 7 - Operational S	BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305128F Security and Investigative Activities (S&IA)	Activities (S&IA)
PROJECT NO. AND NAME 1931 TECH SURVEI	ROJECT NO. AND NAME 1931 TECH SURVEILL COUNTERMEASURE EQPMT		
(U) FY 1996 (\$ in Thousands):	Thousands):		
- \$150	 TSCM Receiver/Software Suite RDT&E of the incorporation of monolithic n RDT&E of software analysis tools for RF spe RDT&E of the integration of data analysis to 	1 Receiver/Software Suite RDT&E of the incorporation of monolithic microwave integrated circuit (MMIC) technology into a receiver RDT&E of software analysis tools for RF spectrum analysis and integration with receiver systems RDT&E of the integration of data analysis tools with receiver hardware and suitable microprocessing systems	receiver g systems
- \$ 50 - \$ 90 - \$290	 Advanced Antenna systems development for use with TSCM systems Telephone Security Countermeasures. Demonstration and validation Total 	Advanced Antenna systems development for use with TSCM systems Telephone Security Countermeasures. Demonstration and validation of countermeasure units for field applications tal	lications
(U) FY 1997 (\$ in Thousands): - \$175 - Telepho - \$25 - Advanc - \$89 - Link A assi - \$289 Total	- Telephone Security Countermeasures. Demonstrati - Advanced Digital Audio Techniques. New develop - Link Analysis Computer Intrusion and Collections assist with tracking criminal investigations of c Total	sands): Telephone Security Countermeasures. Demonstration and validation of countermeasure units for field applications Advanced Digital Audio Techniques. New developmental efforts for advancing current digital audio capability Link Analysis Computer Intrusion and Collections Analysis System (CICAS). Research into the application of Link Analysis tools to assist with tracking criminal investigations of computer intrusions and systems analysis	lications bility on of Link Analysis tools to
	Pa_{3}	Page 2 of 4 Pages	Exhibit R-2





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION SHEET (F	R-2 Exhibit)		DATE Marc	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305128F Secu	Security and Investigative Activities (S&IA)	estigative A	ctivities (S8	(A)
PROJECT NO. AND NAME 1931 TECH SURVEILL COUNTERMEASURE EQPMT					
(U) B. Program Change Summary (\$ in Thousands)					
(U) FY1996 President's Budget (U) Appropriated Value	995 FY 1996 299	FY 1997 299	Total <u>Cost</u> TBD		
	ት ሴ				
 d. Below I meshold reprogramming (U) Adjustments to Budget Years (U) Current Budget Submit/FY1997 President's Budget 	290	-10 289	TBD		
(U) Change Summary Explanation:					
Funding: Inflation adjustment for FY19973000 for Bosnia reprogramming in FY1996.					
Schedule:					
Technical:					
(U) C. Other Program Funding Summary (S in Thousands)					
(U) 3080 - Other Procurement AF 1864 992	996 FY 1997 FY 1998 992 1061 995	FY 1999 FY 1091	2000 FY 2001 2116 2162	<u>To</u> <u>Compl</u> Cont	Total Cost TBD
	Page 3 of 4 Pages			Exhibit R-2	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305128F Security and Investigative Activities (S&IA)	Activities (S&IA)
PROJECT NO. AND NAME 1931 TECH SURVEILL COUNTERMEASURE EQPMT		
(U) D. Schedule Profile		
U) TSCM Receiver/Software Suite (U) Audio/Telephone Intercept (U) Audio/Telephone Intercept (U) Speech Analysis Techniques (U) Link Analysis for Investigative Tracking and Accounting (U) Advanced Antenna Systems (U) Advanced Digital Audio Recorders (U) Advanced Digital Audio Recorders	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
	Page 4 of 4 Pages	Exhibit R-2
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	IS NOL	TEET (R	-2 Exhi	bit)		DATE N	March 1996	ر س
BUDGET ACTIVITY 7 - Operational System Development		PE NI 030	PE NUMBER AND TITLE 0305137F Nation	⊓⊓∟E Iational /	PE NUMBER AND TITLE 0305137F National Airspace System (NAS)	System	1 1		
PROJECT NO. AND NAME 4090 National Airspace System (NAS)									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
4090 National Airspace System (NAS)	29,490	12,627	12,614	13,516	2,290	598	497	Continuing	Continuing
(U) A. Mission Description and Budget Hem Justification The DoD National Airspace System program will modernize the DoD ATC system in parallel with the Federal Aviation Administration (FAA) modernization. The DoD acquire, to the maximum extent practical, systems on contract or systems to be on contract or systems and prevent duplication. The DoD National Airspace Systems and facilities compatibe/interoperable with the FAA modernization, prevents DoD flight delays and cancellations, continues DoD is access most prevent duplication. The DoD military ATC and fighting/flying readiness will be maintained. This program is a budget activity 7 - Operational System (MAMS) will effectively schedule and manage SUA. DoD military ATC and fighting/flying readiness will be maintained. This program is a budget activity 7 - Operational System (MAMS) will effectively schedule and manage SUA. DoD military ATC and fighting/flying readiness will be maintained. This program is a budget activity 7 - Operational System (MAMS) will effectively schedule and manage SUA. DoD military ATC and fighting/flying readiness will be maintained. This program is a budget activity 7 - Operational System (MAMS) development (U) 14.375 Continued Military Airspace Management System (MAMS) development - (U) 3,660 Continued NAS DoD subsystem analysis for each DoD site - (U) 13,663 Continued Astornation and test - (U) 13,863 Continued Astornation and test - (U) 29,490 Total	he DoD ATC system in parallel with the Federal Aviation Administration (FAA) modernization. DoD will or systems to be on contract with the FAA to reduce development costs and prevent duplication. The DoD operable with the FAA modernization, prevents DoD flight delays and cancellations, continues DoD's access to military and civil aircraft, replaces aging DoD ATC systems, and increases flight safety. The Military ule and manage SUA. DoD military ATC and fighting/flying readiness will be maintained. This program e the DoD Air Traffic Control (ATC) system, is an operational system. Sement System (MAMS) development sition planning AAS Integration Plan and test and test	system in posts on contractive FAA mond civil airc ge SUA. Do Traffic Cool (MAMS) of the Plan DoD site	arallel with the odermization raft, replace D military A ntrol (ATC) at the odermization of the odermizati	the Federal / FAA to redu, prevents D s aging DoD ATC and figl system, is an	Aviation Addice developm of flight de ATC system thing/flying a operationa	ministration lent costs ar lays and car ns, and incr readiness w I system.	(FAA) mod d prevent du cellations, c eases flight !	ernization. I pplication. T ontinues Dol safety. The l ined. This p	tion. DoD will ion. The DoD tes DoD's access The Military This program is
		rage 1 of o rages	o rages				EXHIBIT K-Z	7-)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICATION	N SHEET (R-2 Exhibit		DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0305137F Natio	ттге National Airs	PE NUMBER AND TITLE 0305137F National Airspace System (NAS)	(NAS)	
PROJECT NO. AND NAME 4090 National Airspace System (NAS)						:
(U) FY 1996 - (U) 3,500 Continue Military Airspace Management System (MAMS) development - (U) 1,084 Continue site surveys, facility/transition planning - (U) 1,709 Continue NAS DoD subsystem analysis for each DoD site - (U) 2,850 Continue Radar acquisition and test - (U) 1,697 Continue Automation acquisition and test - (U) 1,787 Continue Voice Switch acquisition and test - (U) 12,627 Total	nent System (MAN on planning iis for each DoD s test d test	VIS) development ite				
(U) FY 1997 - (U) 3,500 Continue Military Airspace Management System (MAMS) development - (U) 856 Continue site surveys, facility/transition planning - (U) 883 Complete NAS DoD subsystem analysis for each DoD site - (U) 1,000 Continue Radar acquisition and test - (U) 6,075 Continue Automation acquisition and test - (U) 300 Continue Voice Switch acquisition and test - (U) 12,614 Total	tent System (MAN on planning sis for each DoD s test d test	MS) development site				
(U) B. Program Change Summary (S in Thousands)						
(U) Previous President's Budget (FY 1996)(U) Appropriated Value(U) Adjustments to Appropriated Value	FY 1995 30,126 30,980	FY 1996 13,759 13,759	<u>FY 1997</u> 17,238	Total <u>Cost</u> TBD		
 a. Congressional General Reductions b. SBIR c. Omnibus& Other Above Threshold Reprogramming d. Adjustments to Budget Years Since FY 96 PB (U) Current Budget Submit/President's Budget 	-854 -636 29,490	-707 -287 -138 12,627	-4,624 12,614	TBD		
	Pag	Page 2 of 6 Pages			Exhibit R-2	t R-2





RDT&E BUDGET ITEM JU	EM JUS	TIFICAT	HS NO!	EET (R	STIFICATION SHEET (R-2 Exhibit)	it)		рате Ма	March 1996	
BUDGET ACTIVITY 7 - Operational System Development			PE NUI 030	PE NUMBER AND TITLE 0305137F Nation	ग्त∟ ational A	irspace (D TITLE National Airspace System (NAS)	IAS)		
PROJECT NO. AND NAME 4090 National Airspace System (NAS)										_
(U) Change Summary Explanation:										
Funding: Not applicable.	(
Schedule: To keep DoD and FAA acquisitions synchronized, the RFP release dates and planned contract award dates were shifted a few months and the funds realigned as indicated above. Previous plans were to accelerate the Milestone III decision and request its approval with the Milestone II decision. This was recognized as not feasible, and the plans were amended back to the previous position of separate Milestone II and III decision points.	isitions synch plans were to s were amend	ronized, the accelerate tl ed back to tl	RFP release he Milestone he previous J	dates and particular that the state of the s	olanned cont n and request eparate Mile	ract award d its approva stone II and	lates were shi I with the Mi III decision	fted a few m lestone II de points.	onths and the funds cision. This was	
Technical: None.										
(U) C. Other Program Funding Summary (\$ in Thousands)	Thousands)									
(U) Other Procurement, BA 16	FY 1995 0	FY 1996 0	FY 1997 0	FY 1998 24,208	FY 1999 62,319	FY 2000 58,268	FY 2001 65,326	To Compl Cont.	Total <u>Cost</u> Cont.	
Weapon system code 83/100, PE030513/F (U) Military Construction, BA 24 AF PE 0305137F	0	0	0	3,163	0	0	2,268	Cont.	Cont.	
			Page 3 of 6 Pages	6 Pages				Exhibit R-2	O.	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-2 Exhibit)	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305137F National Airspace System (NAS)	
PROJECT NO. AND NAME 4090 National Airspace System (NAS)		
(U) D. Schedule Profile		
(U) Acquisition Milestone (U) Acquisition Milestone II (U) Contract Milestone II (U) Contract Milestones (U) MAMS Contract Award (U) Radar RFP Release Contract Award (U) Automation RFP Release Contract Award (U) Voice Switch RFP Released Contract Award (U) Voice Switch NAS IOC Apr 2000 NAS IOC Apr 2006	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
I	Page 4 of 6 Pages	Exhibit R-2
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RDT&E PROGRAM ELEMENT	M ELEMENT/P	/PROJECT COST BREAKDOWN (R-3)	COST BI	REAKDO	JWN (R-3	<u> </u>	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	pment		PE NUMBER AND TITLE 0305137F Nation	AND TITLE	PE NUMBER AND TITLE 0305137F National Airspace System (NAS)	e Systen			
PROJECT NO. AND NAME 4090 National Airspace System (NAS)	S)								
(U) A. Project Cost Breakdown (\$ in Thousands)	nousands)								
		FY 1995		FY 1996	FY 1997				
		4,375		3,500	3,500				
(U) Site Surveys (U) Facility/Transition Planning		1,125	o vo	200	175				
		950		100	100 835				
(U) System Engineering (U) Contractor Engineering Support		600		300	0				
	u	18,099		6,334	7,375				
(U) Program Management Support		781		469 60	277				•
		29,490		12,627	12,614				
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	Planning Information	n (\$ in Thousan	(spi						
Performing Organizations:									
Contractor or Contract Government Method/Type Award or Performing or Funding Obligation Activity Vehicle Date	Award or Performing Obligation Activity <u>Date</u> <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations	4/N	10 000	2.500	1.000	0	0	0	3.500	
ystems			`	` •		000		, , ,	
b. Hughes CPFF Nov 95	95 11,300	11,300	>	3,000	3,500	3,500	1,300	11,300	
c. ESC			36,741	25,490	9,127	9,114	15,601	96,073	
	,	Pc	Page 5 of 6 Pages	ies			Exhibit R-3	R-3	

RDT	&E PRO	GRAM EL	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ROJECT	COSTB	REAKD(OWN (R-) E	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	System Do	evelopmer	بر ا		PE NUMBEF 030513	PE NUMBER AND TITLE 0305137F Nation	PE NUMBER AND TITLE 0305137F National Airspace System (NAS)	ce Systen	n (NAS)	
PROJECT NO. AND NAME 4090 National Airspace System (NAS)	ME rspace Syste	ım (NAS)								
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to <u>FY 1995</u>	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Support and Management Organizations SM-ALC	ement Organiza	ations		0	0	0	0	0	2,200,000	2,200,000
Test and Evaluation Organizations AFOTEC (PE0207426F)	Organizations				66	131	390	1,201	Cont.	TBD
NOTES: - MAMS contract with CBSI terminated 31 Mar 95.	ith CBSI termii	nated 31 Mar 9	95.							
- ESC exercised optic MAMS developer.	ion (in Nov 95)	on SM-ALC	contract with Ac	dvanced Techr	iology Support	t Program (A	TSP) for MAN	dS software o	levelopment,	- ESC exercised option (in Nov 95) on SM-ALC contract with Advanced Technology Support Program (ATSP) for MAMS software development, replacing CBSI as the MAMS developer.
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	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICAL	IS NOI	LEET (R	-2 Exhil	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 7 - Operationa	вирдет АстіvітУ 7 - Operational System Development		PE NU 030	PE NUMBER AND TITLE 0305138F Uppo	⊓⊓∟E Ipper Sta	ige Spac	отпте Upper Stage Space Vehicles	(Spa	(a	
PROJECT NO. AND NAME 4053 Upper Stage S	ROJECT NO. AND NAME 4053 Upper Stage Space Vehicles									
	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
4053 Upper Stage Space Vehicles	pace Vehicles	3,547	3,359	3,154	3,365	3,401	3,501	3,553	9,600	44,895
(U) A. Mission D (U) The Uppe operations at t operations sup (DSP) satellite evaluates and manufactured Budget Activii	(U) The Upper Stages Program provides consolidated acquisition of the Inertial Upper Stage (IUS) to support the DoD Mission Model. This effort includes flight operations at the Cape Canaveral Air Station, FL; support to flight operations at the Consolidated Space Test Center (CSTC); and reimbursable acquisition and operations at the Cape Canaveral Air Station, FL; support to flight operations at the Consolidated Space Test Center (CSTC); and reimbursable acquisition and operations support of upper stages for NASA as documented in MOA/MOU's between USAF and NASA. IUS supports the launch of Defense Support Program (DSP) satellites. IUS is the upper stage on a Titan IV (or it can be modified for Shuttle) and takes the DSP satellite to the required orbit. The program continuously evaluates and improves upper stage reliability, cost effectiveness, and responsiveness. It supports redesign of aging equipment and spares which are no longer manufactured or available; investigation of flight anomalies; and small studies to assist in defining future upper stages. The preceding tasks require funding in Budget Activity Research Category Operational Systems Development.	quisition of the to flight oper ted in MOA/N it can be mod eveness, and refes; and small Development.	e Inertial Up ations at the AOU's betwe ified for Sh ssponsivene studies to a	oper Stage (Consolidate Consolidate Consolidate Con USAF auttle) and tass. It suppossist in defin	IUS) to supp ted Space Te nd NASA. I kes the DSP rts redesign iing future u	ort the DoD sst Center (C IUS supports satellite to of aging equ opper stages.	Mission Mc SSTC); and 1 s the launch the required nipment and The preced	del. This ef eimbursable of Defense S orbit. The p spares which ling tasks rec	fort includes acquisition ; support Progran cont nogram cont h are no long quire funding	flight ind am inuously er ; in
(U) \$2,624 (U) \$ 923 (U) \$ 3,547	Studied and designed corrective actions for anomalies and obsolete items Program Management Support Activities Total	anomalies a	nd obsolete	items						
(U) \$ 1,500 (U) \$ 1,500 (U) \$ 955 (U) \$ 904 (U) \$3,359	Study and design corrective actions for anomalies and obsolete items Avionics Obsolescence Mitigation Program Management Support Activities Total	malies and o	bsolete iten	SI						
(U) \$1,200 (U) \$ 980 (U) \$ 974 (U) \$3,154	Study and design corrective actions for anomalies and obsolete items Avionics Obsolescence Mitigation Program Management Support Activities Total	malies and c	obsolete iten	SI						
			Page 1 of 5 Pages	5 Pages				Exhibit R-2	2-2	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION SHEET (R-2 Exhibit)	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305138F Uppe	Upper Stage S	PE NUMBER AND TITLE 0305138F Upper Stage Space Vehicles (Space)	pace)
PROJECT NO. AND NAME 4053 Upper Stage Space Vehicles				
(U) B. Program Change Summary (\$ in Thousands)			Total	
	1995 FY 1996* 3,663 3,554 3,663	FY 1997 3,303	Cost	
Augustineius to Appropriated Value a. Cong Gen Reductions b. SBIR	-39 -69 -76 -75			
c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (BTR)	-1 -51	770		
.	3,547 3,359	-149 3,154	44,895	
(U) Change Summary Explanation:				
Funding: FY97 is an adjustment for inflation of \$133 and overhead reduction of \$16. * The FY96 PB amount does not reflect funding reductions that are reserved for other DoD reprogramming needs (\$37)	ad reduction of \$16. reserved for other DoD	reprogramming neec	ds (\$37)	
Schedule: Not Applicable				
Technical: Not Applicable				
	Page 2 of 5 Pages		Exhi	Exhibit R-2
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	I JUSTI	FICATION	N SHE	ET (R-	Exhib	€		рате Ма	March 1996	
BUDGET ACTIVITY 7 - Operational System Development			PE NUMI 0305	PE NUMBER AND TITLE 0305138F Upper	lE per Stag	e Space	Vehicles	PE NUMBER AND TITLE 0305138F Upper Stage Space Vehicles (Space)		
PROJECT NO. AND NAME 4053 Upper Stage Space Vehicles										
(U) C. Other Program Funding Summary (\$ in Thousands)	usands)							Ę	Total	
(U) Missile Procurement	FY 1995 102,791	FY 1996 55,714	FY 1997 52,500	FY 1998 54,640	FY 1999 55,070	FY 2000 57,203	FY 2001 57,875	Complete 185,600	Cost 859,600	
Related RDT&E: (U) PE 0305144F, Titan Vehicles (U) PE 0102431F, Defense Support Program (DSP) (U) Inertial Upper Stage (IUS) program supports the NASA Space Transportation System as the upper stage is used with the Space Shuttle										1 11 11 11 11 11 11 11 11 11 11 11 11 1
(U) D. Schedule Profile	FY 1995		FY	FY 1996		FY 1997	2			
1	2 3	4	1 2	3	4 1	7	4			
(U) USAF DSP Launch (U) Avionics Replacement* (U) Integration, Launch Support, and X X Life Extension Modification* * Activities are continuous throughout the year.	××	××	××	××	××	<××	××			·····

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Exhibit R-2

RDT	&E PRO	3RAM EI	RDT&E PROGRAM ELEMENT/P	PROJECT COST BREAKDOWN (R-3)	COSTE	3REAKD	OWN (R-	3)	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	System D	evelopme	nt		PE NUMBE 03051 3	PE NUMBER AND TITLE 0305138F Upper	PE NUMBER AND TITLE 0305138F Upper Stage Space Vehicles	vace Vehi	cles (Space)	(ce)	
PROJECT NO. AND NAME 4053 Upper Stage Space Vehicles	ME e Space Vehi	icles									
(U) A. Project Cost Breakdown (\$ in Thousands)	t Breakdown	\$ in Thousar	(spi	FY 1995		FY 1996	FY 1997				
(U) Avionics Obsolescence Mitigation(U) Program Management Support(U) Systems Engineering	scence Mitigat ement Support ering	ion		1,000 923 1,624	23 24 24	955 904 1,500	980 974 1,200				
(U) Total				3,547	73	3,359	3,154				
(U) B. Budget Acquisition History and Planning Information	uisition Histor	y and Planni	ng Informatio	n (\$ in Thousands)	(spu						
Performing Organizations:	zations:										
Contractor or Government Performing Activity	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations Boeing FPI/AF FPI/AF CPAF/LOE United Tech CPFF Corp/Pratt &	t Organization FPL/AF FPL/AF CPAF/LOE CPFF	§ Jul 85 Mar 91 Sep 90 Mar 95	907,000 146,323 N/A N/A	910,000 136,723 N/A N/A	4,400 800 3,045 855	950 621 1,053 0	825 600 1,030 0	630 600 950 0	0 12,000 5,200 0	6,805 14,621 11,278 855	
Whitney Support and Management Organizations Space and Missile N/A N/ Systems Center, LAAFB	ment Organiza N/A	tions N/A	N/A	N/A	2,315	923	904	974	6,220	11,336	
				Pc	Page 4 of 5 Pages	səd			Exhibit R-3	R-3	





RDT&E PROGRAM ELEMENT/	AM ELEME	NT/PROJE	PROJECT COST BREAKDOWN (R-3)	SREAKDOV	VN (R-3)	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	lopment		PE NUMBE 03051:	PE NUMBER AND TITLE 0305138F Upper S	tage Space ∖	PE NUMBER AND TITLE 0305138F Upper Stage Space Vehicles (Space)	(e)
PROJECT NO. AND NAME 4053 Upper Stage Space Vehicles							
Test and Evaluation Organizations Not Applicable	Applicable						
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	d Planning Info	rmation Continu	ed (\$ in Thousan	<u>(sp</u>			
Government Furnished Property: Not Applicable	ot Applicable						
Contractor or Government Performing <u>Activity</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	9,100 2,315	2,624 923	2,455 904	2,180 974	17,200 6,220	33,559 11,336	
Total Project	11,415	3,547	3,359	3,154	23,420	44,895	
			Page 5 of 5 Pages	ses		Exhibit R-3	I R-3

		RDT&E BUDGET ITEM JUS	TIFICAL	ION SE	HEET (R	TIFICATION SHEET (R-2 Exhibit)	oit)		DATE M.	March 1996	C C
BUD.	вирсет Астіміту 7 - Operationa	вирсет астіvіту 7 - Operational System Development		PE NU 030	PE NUMBER AND TITLE 0305144F Titar	⊓∟દ itan Spao	ce Launc	PENUMBER AND TITLE 0305144F Titan Space Launch Vehicles (Space)	s (Space	(6	
PRO. 413	PROJECT NO. AND NAME 4135 Titan Space L.	PROJECT NO. AND NAME 4135 Titan Space Launch Vehicles			•						
		COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
4135	5 Titan Space Launch Vehicles	unch Vehicles	143,208	126,330	105,472	179,741	90,648	53,969	50,600	Continuing	Continuing
E	A. Mission De	(U) A. Mission Description and Budget Item Justification									
	(U) National s the capability t provides severs developed a ne increased perfo maintain syster	(U) National security requirements dictate a continuing, highly reliable means of placing critical DoD satellites into required orbits. The Titan IV program provides the capability to launch the largest of these satellites into near-earth or geosynchronous orbits from either the east or west coast launch facilities. This program provides several different configurations for the Titan IV [No Upper Stage (NUS), Inertial Upper Stage (IUS), and Centaur]. In addition, the Titan IV program has developed a new vehicle configuration, the Titan IVB, with solid rocket motor upgrade (SRMU), new avionics and ground support equipment to meet reliability and increased performance requirements. This program provides continuing integration support to the payload community as well as continuing engineering support to maintain system characterization and reliability.	ighly reliable ear-earth or ; No Upper Str 1 solid rocket les continuin	means of p geosynchror ige (NUS), I motor upgi g integratio	lacing critic nous orbits fi Inertial Upp ade (SRMU n support to	al DoD satel com either th er Stage (UU) , new avion the payload	llites into receest or we east or we S), and Centuics and grout community	ghly reliable means of placing critical DoD satellites into required orbits. The Titan IV program provides car-earth or geosynchronous orbits from either the east or west coast launch facilities. This program No Upper Stage (NUS), Inertial Upper Stage (IUS), and Centaur]. In addition, the Titan IV program has a solid rocket motor upgrade (SRMU), new avionics and ground support equipment to meet reliability and es continuing integration support to the payload community as well as continuing engineering support to	The Titan ch facilities. ition, the Tit quipment to minuing eng	IV program This progra tan IV progr meet reliabi	provides um am has lity and port to
	(U) Beginning vehicle. This a	(U) Beginning in FY94, this program element also included funding for engineering costs, payload integration, and Government costs for the Titan II space launch vehicle. This activity is included as operational systems development since both Titan II and Titan IV are operational launch vehicles.	ed funding fo	r engineerii ince both Ti	ng costs, pay tan II and T	load integra itan IV are c	tion, and Go	vernment co aunch vehicl	sts for the T es.	itan II space	launch
1111111	(U) \$32,543 (U) \$14,577 (U) \$12,536 (U) \$24,192 (U) \$22,412 (U) \$4,551 (U) \$2,397 (U) \$143,208	Continued development of Titan sustainability upgrades and range safety-compliant systems Continued integration for the Defense Support Program (DSP) and Milstar Continued facility/ground equipment modifications and upgrades Continued design requalification for the Titan IVB vehicle configuration Continued Titan Booster support Continued environmental management Continued Titan II Total	lity upgrades oort Program fications and tan IVB vehi	and range (DSP) and upgrades cle configur	safety-comp Milstar ation	liant systems	7 0				
1.1	(U) \$16,743 (U) \$13,552	Continue development of Titan sustainability upgrades and range safety-compliant systems Continue integration for the Defense Support Program (DSP) and Milstar	ty upgrades : ort Program (and range sa DSP) and M	ıfety-compli filstar	ant systems					



Page 1 of 6 Pages

Exhibit R-2



RDT&E	RDT&E BUDGET ITEM JUSTIFIC,	STIFICATION SHEET (R-2 Exhibit)	R-2 Exhib	it)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	Development	PE NUMBER AND TITLE 0305144F Titan	тт∟е Titan Spac	PE NUMBER AND TITLE 0305144F Titan Space Launch Vehicles (Space)	les (Space)
PROJECT NO. AND NAME 4135 Titan Space Launch Vehicles	ehicles				
 (U) \$13,715 Continue faci (U) \$46,798 Continue desi (U) \$25,354 Continue Tita (U) \$3,536 Continue env (U) \$6,632 Continue Tita (U) \$126,330 Total 	Continue facility/ground equipment modifications and upgrades Continue design requalification for Titan IVB and follow-on procurement Continue Titan Booster support Continue environmental management Continue Titan II, including guidance replacement Total	d upgrades llow-on procurement			
(U) \$\frac{\text{FY 1997}}{\text{S13,973}}\$ Continue develop - (U) \$\frac{\text{S1,972}}{\text{S2,980}}\$ Continue facility/ - (U) \$\frac{\text{S2,980}}{\text{S2,946}}\$ Continue design 1 - (U) \$\frac{\text{S2,946}}{\text{S2,946}}\$ Continue Titan B - (U) \$\frac{\text{S2,340}}{\text{Continue environ}}\$ - (U) \$\frac{\text{S2,551}}{\text{Continue Titan II}}\$	Continue development of Titan sustainability upgrades and range safety compliant systems Continue integration for the Defense Support Program (DSP) and Milstar Continue facility/ground equipment modifications and upgrades Continue design requalification for Titan IVB and follow-on procurement Continue Titan Booster support Continue environmental management activity Continue Titan II	es and range safety comp m (DSP) and Milstar d upgrades llow-on procurement	liant systems		
(U) Acquisition Strategy: (U) This program is in the p transition from the current 41 contract discrepancies, and estorage, pad maintenance and studies to provide the greates	Acquisition Strategy: (U) This program is in the process of finalizing an acquisition strategy for USD(A&T) approval detailing the entire 46-vehicle program. The strategy addresses the transition from the current 41-vehicle development/production and payload integration contracts to new contracts designed to improve cost accountability, correct contract discrepancies, and establish an overall programmatic view for the effort to complete the program. The strategy combines Titan II and Titan IV production, storage, pad maintenance and deactivation, launch operations, anomaly resolution, development and hardware requalification, payload integration, and program studies to provide the greatest potential for cost savings by maximizing use of resources and eliminating duplicative processes.	igy for USD(A&T) appro ayload integration contra or the effort to complete aly resolution, developments are of resources and e	val detailing th cts to new cont the program. That and hardwalliminating duple	e entire 46-vehicle proracts designed to importe strategy combines re requalification, pay licative processes.	
(U) B. Program Change Summary (\$ in Thousands)	iary (S in Thousands) FY 1995	995 FY 1996** 660 140 514	FY 1997 148 656	Total Continuing	
(U) Appropriated Value (U) Adjustments to Appropriated Value		Page 2		9	Exhibit R-2

RDT&E BUDGET ITEM JUS	STIFICATION	ON SHEET	TIFICATION SHEET (R-2 Exhibit)	oit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0305144F Titar	ND TITLE	e Launch Vel	PE NUMBER AND TITLE 0305144F Titan Space Launch Vehicles (Space)
PROJECT NO. AND NAME 4135 Titan Space Launch Vehicles					
 a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY96 PB (U) Current Budget Submit/President's Budget 	EY 1995 -2,507 -3,184 -1,700 -2,797 143,208*	FY 1996** -3,114 -3,070 -3,000	FY 1997 -43,184 105,472	Total <u>Cost</u> Continuing	
(U) Change Summary Explanation:					
Funding: FY95 Omnibus and Below Threshold Reprogrammings reductions due to lower than expected budget execution. FY96 reductions result from decision to terminate effort to outfit the Centaur Processing Facility (CPF) at Cape Canaveral AS with enough ground equipment to provide a storage capability. FY97 reductions driven by lower than expected budget execution in FY95(\$25,000). Remaining FY97 reduction resulted from decision to terminate the entire Centaur processing and cryogenic tanking facility at Cape Canaveral AS due to the limited operational effectiveness given the heavy-lift payload transition to the Evolved Expendable Launch Vehicle (\$13,000). * Note: Additional reductions in FY95 not yet reflected in above FY95 totals (\$1,253). ** The FY96 PB amount does not reflect funding reductions that are reserved for other DoD reprogramming needs (\$6,187) Schedule: FY96 and FY97 reductions result from deletion of the CPF Acquisition Program Baseline (APB) Initial Operational Capability (IOC) milestone in June 97.	grammings reduility (CPF) at Clain in FY95(\$2 inveral AS due to a lin above FY95 ctions that are ration of the CPF	rammings reductions due to low ity (CPF) at Cape Canaveral AS on in FY95(\$25,000). Remainieral AS due to the limited operin above FY95 totals (\$1,253). itons that are reserved for other on of the CPF Acquisition Prog	er than expected with enough grang FY97 reductional effectiven DoD reprogramm ram Baseline (Al	budget execution. oun equipment to on resulted from de ess given the heav. ning needs (\$6,187 ning needs (\$6,187)	FY96 reductions result from decision provide a storage capability. FY97 cision to terminate the entire Centaur/lift payload transition to the Evolved)
Technical: FY96 and FY97 reductions result from termination of the off-pad Centaur upper stage processing, cryogenic tanking, and storage capability.	mination of the	off-pad Centaur u	pper stage proce	ssing, cryogenic ta	nking, and storage capability.
(U) C. Other Program Funding Summary (\$ in Thousands) FY 1995 (U) Missile Procurement, Budget Activity 5, 348,558 Program Title: Space Boosters Related RDT&E:	FY 1996 427,237	FY 1997 FY 1998 489,606 532,541	998 <u>FY 1999</u> 541 573,486	FY 2000 FY 2001 406,205 348,893	To Total 001 Compl Cost 893 Continue Continue
		Page 3 of 6 Pages			Exhibit R-2





RDT&E BUDGET ITI	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305144F Titan Space Launch Vehicles (Space)	ehicles (Space)
PROJECT NO. AND NAME 4135 Titan Space Launch Vehicles		
(U) Not Applicable.	FY 1995 FY 1996 FY 1997 FY 1998 FY 1999 FY 2000 F	To Total FY 2001 Compl Cost
(U) D. Schedule Profile		
(U) Single Acquisition Management Plan (SAMP) to USD(A&T) (U) 41-Vehicle Production and Launch Operations Ltr. Contract Award U) 41-Vehicle Production and Launch Operations Contract Definitization (U) Titan IV-B (SRMU) Initial Operational Capability (IOC) (U) Titan Development (Hardware Requalification) Contract Award (U) Contact Award for Follow-on Buy Modification	FY 1995 2 3 4 1 2 3 4 1 2 3 X X X X X X X X X X X X X	4
	Page 4 of 6 Pages	Exhibit R-2

RD.	RDT&E PROGRAM ELEMENT/	SRAM EL	EMENT/F	PROJECT COST BREAKDOWN (R-3)	COSTB	REAKD	OWN (R-	3)	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	I System De	evelopme	nt		PE NUMBER AN 0305144F	D ТІТСЕ Titan	Space Lau	unch Vehi	Space Launch Vehicles (Space)	(e)	
PROJECT NO. AND NAME 4135 Titan Space Launch Vehicles	_{АМЕ} e Launch Veh	icles									
(U) A. Project Cost Breakdown (\$ in Thousands)	st Breakdown (S in Thousan	(spi					÷			
				FY 1995		FY 1996	FY 1997				
(U) Titan IV (U) Contract Costs	ct Costs			112,763		86,929	73,875				
(U) Other ((U) Other Government Costs	ts		22,412		25,354	25,946				
(U) Titan II (U) Contract Costs (U) Other Governn (U) Total	an II (U) Contract Costs (U) Other Government Costs al	ts:		1,477 920 143,208		6,497 135 126,330	2,300 251 105,472				
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	quisition Histor	y and Planni	ng Information	ı (\$ in Thousar	(spi						
Performing Organizations:	izations:										
Contractor or Government Performing	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC*</u>	Project Office <u>EAC*</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations LMC 85-C-0019 C/FPIF	nt Organizations C/FPIF		11,195,465	11,343,400	2,083,707	98,186	79,874		Continues	Continues	
LMC 85-C-0085 LMC 92-C-0028 LMC - New R&D	C/FPIF C/CPAF	1QFY85 3QFY92	638,600 629,502	638,600 632,400	84,444 68,770	1,477 14,577	13,552	9,782	Continues Continues Continues	Continues Continues Continues	
Contracts Facilities					81,000	5,636	7,415	3,100	Continues	Continues	
				Pa	Page 5 of 6 Pages	ses			Exhibit R-3	-3	





RDT&E PROGRAM ELEMENT/PROJECT	r COST B	REAKD(COST BREAKDOWN (R-3)	3	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER ANI 0305144F		Space La	unch Vehi	TITLE TITLE THE Space Launch Vehicles (Space)	(ec	
PROJECT NO. AND NAME 4135 Titan Space Launch Vehicles							
Contractor or Contract Government Method/Type Award or Performing Project Performing or Funding Obligation Activity Office Activity Vehicle Date EAC* EAC*	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total Program	
Space and Missile System Contractor FFBD C Sunnort	98,100	19,516	22,389	22,049	Continues	Continues	
Test and Evaluation Organizations Not Applicable	`	•	`				
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	2,364,321 162,800	119,876 23,332	100,841 25,489	79,275 26,197	Continues	Continues Continues	
Total Project	2,478,721	143,208	126,330	105,472	Continues	Continues	
* NOTE: EAC Includes all sources of funding							
			i				
	Page 6 of 6 Pages	ses			Exhibit R-3	R-3	

	RDT&E BUDGET ITEM JUS	TIFICA	FION S	HEET (R	ISTIFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	91
BUDGET ACTIVITY	YTIVITY		PE N	PE NUMBER AND TITLE	TITLE					
7 - Opel	7 - Operational System Development		030)5145F ₽	rms Con	itrol Impl	0305145F Arms Control Implementation	on		
	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
Total	Total Program Element (PE) Cost	2,653	954	26,786	10,997	11,115	11,142	11,251		Continuing Continuing
4190 Trea	4190 Treaty Prep/Verification Support	0	468	0	0	0	0	0	0	508
4283 Oper	4283 Open Skies Treaty Systems Develop	2,653	486	0	0	0	0	0	0	8,749

(U) A. Mission Description and Budget Item Justification

4520 Comp Test Ban Treaty Data Ctr Dev

(U)This element directly supports implementation and planning for current and pending arms control agreements.

Continuing

Continuing

11,251

11,142

11,115

10,997

26,786

0

- (U) Treaty preparation/verification support activities encompass a wide range of projects necessary to prepare the United States for compliance with impending and future arms control treaties and negotiations.
- (U) Open Skies support includes development of Synthetic Aperture Radar (SAR), SAR media processing equipment, the Data Annotation and Recording Mapping System (DARMS), as well as systems integration, engineering, test, and evaluation. This includes:
 - (U) Aircraft systems integration, engineering, test, and evaluation
 - (U) Synthetic Aperture Radar (SAR) prototype development
- (U) Data Annotation and Recording Mapping System (DARMS) prototype development
 - (U) Ground processing software development.
- research on seismology in support of nuclear monitoring performed under the auspices of the AF Office of Scientific Research (Project 2309) were also transformed (U) Comprehensive Test Ban Treaty (CTBT) Data Center Development and related CTBT technology development programs transfer from the Advanced Research Projects Agency (ARPA) to AF Arms Control in FY97. Work on seismic event identification techniques performed by Phillips Laboratory (Project 1010) and to AF Arms Control in FY97. These actions were taken to consolidate DoD funding and management of key treaty implementation activities and monitoring technologies into one program element.

Page I of 12 Pages

Exhibit R-2





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICATIO	N SHEET (R-2 Exhib	it)	DATE Mâ	March 1996
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0305145F Arms	Arms Cont	O TITLE Arms Control Implementation		
(U) PE belongs in BA # 7 since projects involve efforts that include modifications to operational systems, and production approval for all R&D activities have been approved.	clude modificatio	ons to operational	systems, and p	roduction approval for	all R&D activ	vities have been
(U) B. Program Change Summary (\$ in Thousands)				Total		
(I) Dravious Dracident's Budget	FY 1995 6 456	FY 1996	FY 1997	Continuing		
(U) Appropriated Value	3,456			9		
a. Congressional General Reductions	-38	-20				
b. SBIR	-72	-16				
c. Omnibus and Above Threshold	-693	×				
(U) Functional transfer from ARPA and Air Force science			+25,058			
and reciniology programs (U) Current Budget Submit/President's Budget	2,653	954	26,786	Continuing		
	Pag	Page 2 of 12 Pages			Exhibit R-2	-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUST	IIFICAT	ION SH	EET (R	-2 Exhib	oit)		DATE M ã	March 1996	
BUDGET ACTIVITY 7 - Operational System Development			PE NUI 030	PE NUMBER AND TITLE 0305145F Arms	⊓LE rms Cont	trol Imple	ЭТІТІЕ Arms Control Implementation			
(U) C. Other Program Funding Summary (S in Thousands)	Thousands)							Cost To	Total	
(U) Aircraft Procurement: C-135B	$\frac{\text{FY } 1995}{0}$	FY 1996 429	FY 1997 548	FY 1998 0	FY 1999 0	$\frac{\text{FY } 2000}{0}$	FY 2001 0	Compl 0	Cost Cost 61,577	
(U) Other Procurement: Items less than \$2.0	38	38	40	41	43	44	46	Con't.	Cont.	
(U) Other Procurement: Items Less that \$2.0	2,441	0	0	0	0	0	0	0	2,441	
(U) D. Schedule Profile										
(U) See individual project schedules										
			Page 3 of 12 Pages	2 Pages				Exhibit R-2	Ġ	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	USTIFICA	S NOIL	HEET (R	R-2 Exhi	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development		PE NI 03(PE NUMBER AND TITLE 0305145F Arms	O TITLE Arms Control Implementation	itrol Impl	ementati	ion		
PROJECT NO. AND NAME 4190 Treaty Prep/Verification Support									
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
4190 Treaty Prep/Verification Support	0	468	0	0	0	0	0	0	208
(U) A. Mission Description and Budget Item Justification	<u> </u>								
(U) Treaty preparation/verification support activities encompass a wide range of projects necessary to prepare the United States for compliance with impending arms control treaties and negotiations. They include modifications and enhancements to the Arms Control Treaty Information Operating Network (ACTION) system, research and analysis activities associated with preparing the USAF to support immediate compliance with existing agreements and analysis of the implications of future agreements and negotiations.	encompass a wi modifications a th preparing the	de range of j nd enhancer USAF to su	projects nece nents to the ipport imme	essary to prej Arms Contro diate compli	pare the Uni ol Treaty Inf ance with ex	ted States fo ormation Oj isting agree	r compliance perating Net ments and a	e with impen work (ACTIC nalysis of the	ding NO)
(U) <u>FY 1995</u> – (U) \$0 Not Applicable. – (U) \$0 Total									
 (U) FY 1996 (U) \$468 Accomplishes research to model threats and analyze feasibility of AF's National Missile Defense strategy. Analyzes compliance with ABM treaty. (U) \$468 Total 	threats and anal	yze feasibili	ty of AF's N	ational Miss	ile Defense	strategy. Au	nalyzes comp	diance with	4 ВМ
(U) <u>FY 1997</u> – (U) \$0 Follow-on requirements not defined – (U) \$0 Total	ed and programmed beyond FY96.	ımed beyond	I FY96.						
(U) B. Program Change Summary (\$ in Thousands)					É	104			
(U) Previous President's Budget	FY 1995 2,760		FY 1996 498	FY 1997 1,728		Cost TBD			
		Page 4 of 12 Pages	12 Pages				Exhibit R-2	1-2	
		9871	<u> </u>						

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305145F Arms	TITLE Arms Control Implementation	
PROJECT NO. AND NAME 4190 Treaty Prep/Verification Support			
FY 1995 (1) Annronriated Value	FY 1996	FY 1997	Total <u>Cost</u>
Adjustments to Appropriated Value a. Congressional General Reduction b. SBIR c. Omnibus and Above Threshold Adjustments to Budget Years Since FY95 PB Current Budget Submit/President's Budget	-10 -16 -4	-1,728 0	508
(U) Change Summary Explanation:			
(U) Funding: General Congressional reduction. Decreased funding due to reduction in treaty preparation activities associated with the START II, CWC and CTBT. Follow-on efforts not yet defined and programmed beyond FY96.	to reduction in tre	aty preparation activitie	s associated with the START II, CWC and
Schedule: Not Applicable			
Technical: Not Applicable			
(U) C. Other Program Funding Summary (\$ in Thousands): Not Applicable			
(U) D. <u>Schedule Profile</u> : EY 1995 1 2 3 4 1 (U) Analysis and Support	FY 1996 2 3	4 1 2 X	FY 1997 2 3 4
Pas	Page 5 of 12 Pages		Exhibit R-2
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RD	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICAL	ION SE	EET (R	-2 Exhil	pit)		DATE	March 1996	9
BUDGET ACTIVITY 7 - Operational Sy	BUDGET ACTIVITY 7 - Operational System Development		PE NL 030	PE NUMBER AND TITLE 0305145F Arms	D TITLE Arms Control Implementation	trol Impl	ementati			
PROJECT NO. AND NAME 4283 Open Skies Tre	PROJECT NO. AND NAME									
	COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
4283 Open Skies Treaty Systems Develop	ystems Develop	2,653	486	0	0	0	0	0	0	8,749
(U) A. Mission Descri	(U) A. Mission Description and Budget Item Justification									
 (U) Open Skies su Mapping System ((U) Aircraft sy. (U) Synthetic A (U) Data Anno (U) Ground pro 	 (U) Open Skies support includes development of Synthetic Aperture Radar (SAR), SAR media processing equipment, the Data Annotation and Recording Mapping System (DARMS), as well as systems integration, engineering, test, and evaluation (U) Aircraft systems integration, engineering, test, and evaluation (U) Synthetic Aperture Radar (SAR) prototype development (U) Data Annotation and Recording Mapping System (DARMS) prototype development (U) Ground processing software development 	ic Aperture Radar (SAR), SAR me on, engineering, test, and evaluatio d evaluation pment (DARMS) prototype development	adar (SAR) ng, test, and ototype dev	, SAR medi. I evaluation. elopment	a processing This incluc	equipment, les:	the Data Aı	motation an	d Recording	
(U) <u>FY 1995</u> - (U) \$2,153 - (U) \$500 - (U) \$72) - (U) \$(693) - (U) \$2,653	Continued the aircraft systems integration, engineering, test, and evaluation for the Open Skies OC-135B aircraft. Provided for the software development associated with processing SAR and video magnetic media. SBIR reduction not reflected in database Reprogramming not reflected in database Total	ation, engine nt associated ase base	ering, test, s with process	and evaluati sing SAR ar	on for the O	pen Skies Oo gnetic media	C-135B airc	raff.		
(U) <u>FY 1996</u> - (U) \$486 - (U) \$486	Completes system integration and test & evaluation of the FOC trainer OC-135B aircraft. Total	t& evaluati	on of the FC	OC trainer O	C-135B airc	raff.				
			Page 6 of 12 Pages	12 Pages				Exhibit R-2	۲ - 2	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DA	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305145F Arms) TITLE Arms Control	O TITLE Arms Control Implementation	
PROJECT NO. AND NAME 4283 Open Skies Treaty Systems Develop				
(U) <u>FY 1997</u> - (U) \$0 Project complete after FY96 (U) \$0 Total				
(U) B. Program Change Summary (\$\frac{1}{2}\$ in Thousands)				
(U) Previous President's Budget 3,696 (U) Appropriated Value 3,456 (U) Adjustments to Appropriated Value	FY 1996 500	FY 1997	Total <u>Cost</u> 8,696	
	-10			
d. BTR (U) Current Budget Submit/President's Budget 2,653	486	0	8,070	
(U) Change Summary Explanation: (U) Funding: Increased funding due to added costs associated with overall aircraft systems integration. General Congressional reduction in FY95. FY95 SBIR reduction and reprogramming action are not reflected in the database.	ıll aircraft systems	integration. Gener	al Congressional reduc	ction in FY95. FY95 SBIR
Schedule: Not Applicable				
Technical: Not Applicable				
Pa	Page 7 of 12 Pages		Ú	Exhibit R-2



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICAL	IS NOI	IEET (R-	2 Exhit	E.		DATE M8	March 1996	
BUDGET ACTIVITY 7 - Operational System Development			PE NU 030	PE NUMBER AND TITLE 0305145F Arms	TLE ms Con	trol Imple	отте Arms Control Implementation			
PROJECT NO. AND NAME 4283 Open Skies Treaty Systems Develop										
(U) C. Other Program Funding Summary (S in Thousands	Thousands)							£	Total	
(U) Aircraft Procurement: C-135B	FY 1995 0	FY 1996 429	FY 1997 548	$\frac{\text{FY } 1998}{0}$	FY 1999 0	$\frac{\text{FY } 2000}{0}$	FY 2001 0	Compl 0	Cost Cost 61,577	
(U) Other Procurement: Items less than \$2.0	38	38	40	41	43	44	46	Con't	TBD	
(U) Other Procurement: Items Less that \$2.0	2,441	0	0	0	0	0	0	0	2,441	
(U) D. Schedule Profile Includes all Program activities not just RDT&E	1 2	FY 1995 2 3	4	FY 1996 2 3	4	1 E	FY 1997 2 3	4		
(U) Milestone II/III (Complete Mar 93) (U) Critical Design Complete (3010) (U) FOC Aircraft #1 (I) Modifications (3010)			×							
(U) T&E (3600) (U) Delivery			× 	××						
(U) FOC Aircraft #2 (U) Modifications (3010)	×		,	×						
(U) T&E (3600) (U) Delivery				×		××				
(U) FOC Retrofit of IOC Aircraft (U) Modifications (3010)			×			×				
(U) T&E (3600)						×	×			
(U) Delivery (U) Ground Proc'ng Facility Enhancements		×				×	×			
(U) Engine Stage III Noise Abatement (U) Hush Kit Devel. & Procurement (3010)							×			•
(U) Install Kits (1/98 - 4/99) (3010)										
			Page 8 of 12 Pages	2 Pages				Exhibit R-2	2	
			1400							

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit) DATE March 1996	966
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0305145F Arms Control Implementation	
PROJECT NO. AND NAME		
4520 Comp Test Ban Treaty Data Ctr Dev		

(U) A. Mission Description and Budget Item Justification

(U) The CTBT effort will encompass a multitude of activities in FY97 that enable the DoD to prepare for US treaty implementation and compliance. Prior to FY97, these activities were managed by AFTAC, ARPA, Phillips Labs, and the Office of Scientific Research. Activities include:

Continuing

Continuing

11,251

11,142

11,115

10,997

26,786

0

Total Cost

Cost to Complete

FY 2001 Estimate

FY 2000 Estimate

FY 1999 Estimate

FY 1998 Estimate

FY 1997 Estimate

FY 1996 Estimate

FY 1995 Actual

COST (In Thousands)

4520 Comp Test Ban Treaty Data Ctr Dev

- (U) Development of National and International Data Centers (\$16.3 million)
- (U) automated systems development and integration
- · (U) automated signal processing and integration into operational system
- (U) expansion from seismic-only processing to include hydroacoustic, infrasound, and radionuclide data
- · (U) complete integration of automated and interactive processing algorithms
 - · (U) demonstrate atmospheric transport capability for radionuclide location · (U) prototype multi-technique data fusion and correlation system
 - · (U) data authentication
- · (U) conclude testing of the integrated system
- (U) initiation of transition of the IDC to CTBT Organization/Preparatory Commission
- (U) automation integration of knowledge bases, multi-source cueing, and regional discrimination research
- (U) display development of man-machine interface
- (U) Treaty Implementation and Technical Support (\$4.593 million)
- · (U) definition of processes and techniques for treaty required data exchanges and notifications
- (U) compliance and verification decision tools
- · (U) interface to other National Systems
- (U) interface to the US research community
- (U) support to Preparatory Commission activities
- (U) provide capability to analyze, characterize and resolve events located in the US in order to minimize frivolous on-site inspection requests by foreign governments and the CTBT international organization

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Exhibit R-2





KDIGE BUDGE! HEIM JUSTIFICATION SHEET (R-2 EXHIBIT)	March 1996	_
BUDGET ACTIVITY 7 - Operational System Development 7 - Operational System Development	u	
PROJECT NO. AND NAME 4520 Comp Test Ban Treaty Data Ctr Dev		
• (U) Seasent and development of nuclear monitoring techniques (\$5.893 million) - (U) Seismic (U) seismic and hydroacoustic array development (U) event detection techniques (U) location and distrimination of small events (U) deliver model of Eurasion and Middle East crust & mantle structure (U) deliver model of Eurasion and Middle East crust & mantle structure (U) calibration of standard networks - (U) Radiomedide (U) development and testing of radiomedide detection techniques (U) configure existing radiomedide data processing software to the UNIX platform - (U) Xernon transition DOE xernon sampler prototype to production ready model transition DOE xernon sampler prototype to production ready model		
	בעווומון וע-ב	7

RDT&E BUDGET ITEM JUSTIFICATION	TIFICATION SHEET (R-2 Exhibit)	R-2 Exhib	it)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305145F Arms	TITLE Arms Cont	TITLE Arms Control Implementation	
PROJECT NO. AND NAME 4520 Comp Test Ban Treaty Data Ctr Dev				
 (U) Prior to FY97, ARPA, Phillips Labs, and OSR managed these activities under the following PEs: (U) ARPA (U) OSR (U) Phillips Labs PE 0602601F, Project 1010 	er the following PEs			
(U) <u>FY 1995</u> - (U) \$0 N/A - (U) \$0 Total				
(U) <u>FY 1996</u> - (U) \$0 N/A - (U) \$0 Total				
(U) <u>FY 1997</u> - (U) \$26,786 Multiple - (U) \$26,786 Total				
(U) B. Program Change Summary (S in Thousands)			Total	
(U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Reprogramming (U) Current Budget Submit/President's Budget	FY 1996 0	FY 1997 0 0 +26,786 26,786	Cost Continuing Continuing	
Pa	Page 11 of 12 Pages			Exhibit R-2

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RDT&E BUDGET ITEM JUSTIFICATION	JSTIFICATION SHEET (R-2 Exhibit)	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305145F Arms Control Implementation	on
PROJECT NO. AND NAME 4520 Comp Test Ban Treaty Data Ctr Dev		
 (U) Change Summary Explanation: (U) Funding: Transfers funding from ARPA, Phillips Labs, and OSR for implementation preparation and key monitoring activities. Schedule: Not Applicable Technical: Not Applicable 	r implementation preparation and key monitoring act	ivities.
(U) C. Other Program Funding Summary (\$ in Thousands):		
(U) Related Activities: (U) PE 03XXXXXXF, Forest Green		
(U) D. Schedule Profile $\frac{FY 1995}{1}$	$ \begin{array}{c cccccccccccccccccccccccccccccccccc$	
(U) Treaty Implementation & Technical Support	X X	
Page	Page 12 of 12 Pages	Exhibit R-2
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	RDT&E BUDGET ITEM JUS	TIFICA	TION S	HEET (F	TIFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	9
PODE	BUDGET ACTIVITY 7 - Operational System Development		PE NI 030	PE NUMBER AND TITLE 0305158F Cons	PE NUMBER AND TITLE 0305158F Constant Source	Source				
	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
	Total Program Element (PE) Cost	3,123	2,892	2,914	870	815	839	851	TBD	TBD
4071	4071 Constant Source	3,123	0	0	0	0	0	0	0	10,554
4394	4394 Combat Intelligence System	0	2,009	2,035	607	569	586	594	TBD	TBD
4395	4395 Radio	0	883	879	263	246	253	257	TBD	TBD

It is a continuing effort (no termination or new starts) within the PE. The change is in accounting only; no change in scope with creation of two BPACs. - Beginning in FY96, funding for the Constant Source program is divided into two projects, Combat Intelligence System (CIS) and Radio Notes:

(U) A. Mission Description and Budget Item Justification

Source Operator Terminal (CSOT) functionality was transformed into the Combat Intelligence System (CIS). This functionality processes the near-real-time threat (DSPO), and the Navy. This Program Element is assigned in Budget Activity 7 Operational System Development because it involves post-Milestone III efforts and provided by national and tactical intelligence sources. Currently over 130 ground systems are deployed. Air Force is jointly developing and procuring an airborne information utilized by combat units/aircrews for mission planning and execution. The radio portion of this program enables the warfighter to access critical data (U) This program was established as part of the Air Force Tactical Exploitation of National Capabilities (TENCAP) normalization effort. Recently, the Constant qualified radio called Multi-mission Advanced Tactical Terminal (MATT) with US Special Operations Command (SOCOM), Defense Support Program Office supports development of operational systems.

(U) Acquisition Strategy:

- (U) Project 4071 Integrate COTS software and hardware to reduce development, sustainment, and procurement costs. Sole source contract. Cost Plus Award Fee. Firm Fixed Price.
- (U) Project 4394 Full and open competition leading to a Cost Plus Award Fee contract.
- (U) Project 4395 Technology transfer from the Naval Research Laboratory to the contractor. Evolutionary acquisition strategy was implemented with a core capability procured during the first production option. Firm Fixed Price.

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Exhibit R-2





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION SHE	ET (R-2	Exhibi	t)	DATE		March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMB 03051	PE NUMBER AND TITLE 0305158F Constant Source	.E nstant S	ource			
(U) B. Program Change Summary (S in Thousands)							
Previous President's Budget Appropriated Value	F		3,054	Total Cost Continuing			
(U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram	-1-	-107 -59 -31					
 d. Below 1 hreshold Reprogramming (U) Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/President's Budget 	3,123 2,8	2,892	-140	Continuing			
(U) Change Summary Explanation: Funding: - FY 1997 reduction (-\$140,000) due to revised inflation rate.	on rate.						
Schedule: N/A							
Technical: N/A							
(U) C. Other Program Funding Summary (\$\frac{1}{2}\$ in Thousands)							
(U) Other Procurement 5,101	FY 1997 7,6,06	FY 1998 10,755	FY 1999 6,564	FY 2000 FY 2001 7,366 10,020		To Cont	Total Cont
	Page 2 of 19 Pages	Pages			Û	Exhibit R-2	

RDT&E BUDGET ITEM JU	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305158F Constant Source	
(U) D. Schedule Profile		
(U) Combat Intelligence System (CIS)	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	3 4
(U) Formal Request for Proposal X (U) CIS 1.1 Release (U) Contract Award (U) Development Test & Eval (DT&E) Start (U) DT&E Complete for Software (S/W) Increment #1 (U) Initial Operational Test & Eval (IOT&E) Start (U) IOT&E Complete for S/W #1 (U) Version Release S/W #1 (U) Initial Operational Capability	<pre></pre>	×
	Page 3 of 19 Pages	Exhibit R-2
	1402	



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305158F Constant Source	
(U) D. Schedule Profile		
$\frac{\text{FY 1995}}{1 2 3 4 1}$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
(U) Multi-mission Advanced Tactical Terminal (MATT)		
(U) FY94 Production Run/Deliveries X Start (U) Delivery for Platform Start (U) Exercise FY95 Production Option (U) FY95 Production Run/Deliveries Start (U) Exercise FY96 Production Option (U) FY96 Production Run/Deliveries Start (U) Exercise FY97 Production Option (U) Exy97 Production Run Start (U) Delivery to Platform Start (U) Delivery to Platform Start	* * * * *	
Pa	Page 4 of 19 Pages	Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION SE	HEET (R	-2 Exhi	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development		PE NI 030	PE NUMBER AND TITLE 0305158F Cons	ודו∟ב Constant Source	Source				
PROJECT NO. AND NAME 4071 Constant Source									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
4071 Constant Source	3,123	0	0	0	0	0	0	0	10,554
Note: - Beginning in FY96, funding for the Constant Source program is divided into two projects, Combat Intelligence System (CIS) and Radio (U) A. Mission Description and Budget Item Justification	rogram is di	vided into tv	vo projects,	Combat Intel	lligence Syst	em (CIS) ar	nd Radio.		
 (U) FY 1995 (\$\frac{1}{3}\$ in Thousands): (U) \$\frac{1}{3}\$ 2,833 Updated software and executed ECPs for air/ground systems as required (U) \$\frac{1}{3}\$ 95 Planned and supported integrations on DoD aircraft and weapon systems (U) \$\frac{1}{3}\$ 100 Planned to retrofit existing systems with state-of-the-art components 	s for air/grou on DoD aircr with state-of-	for air/ground systems as required n DoD aircraft and weapon systems ith state-of-the-art components	as required oon systems oonents						
- (U) \$3,123 Total									•
(U) \$ (V) \$ 0									
(U) <u>FY 1997 (\$ in Thousands)</u> : - (U) \$ 0									
		Page 5 of 19 Pages	19 Pages				Exhibit R-2	7-	
		1499	•						
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (F	R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305158F Cons	PE NUMBER AND TITLE 0305158F Constant Source	93	
PROJECT NO. AND NAME 4071 Constant Source				
(U) B. <u>Program Change Summary (\$ in Thousands)</u>				
(U) Previous President's Budget 3,191	<u>FY 1996</u> 0	$\frac{\text{FY } 1997}{0}$	Total <u>Cost</u> 10,554	
3, 1 Value				
b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming				
(U) Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/President's Budget 3,123	0	0		
(U) Change Summary Explanation: Funding: Funds from Constant Source Operator Terminal (CSOT) were transferred to two new projects in this Program Element: Combat Intelligence System (CIS) and Radio.	re transferred to two	new projects in this	s Program Elemo	ent: Combat Intelligence System
Schedule: N/A				
Technical: N/A				
(U) C. Other Program Funding Summary (\$\sin \text{Thousands})				
d	Page 6 of 19 Pages			Exhibit R-2

RDT&E BUDGE	TITE	M JUSTI	FICATION	NO	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	March 1996
BUDGET ACTIVITY 7 - Operational System Development	ment			PE 0	PE NUMBER AND TITLE 0305158F Constant Source	
PROJECT NO. AND NAME 4071 Constant Source						
(U) D. Schedule Profile						
(U) Combat Intelligence System (CIS)		FY 1995 2 3	4	-	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
(U) Formal Request for Proposal(U) CIS 1.1 Release(U) Contract Award	×	×	×			
(U) Multi-mission Advanced Tactical Terminal (MATT)						
 (U) FY94 Production Run/Deliveries Start (U) Delivery for Platform Start (U) Exercise FY95 Production Option 		× ××		,		
			P_{\perp}	age 7 c	Page 7 of 19 Pages	Exhibit R-2



RDT&E PROGRAM ELEMENT	RAM EL	EMENT/P	PROJECT COST BREAKDOWN (R-3)	COST BI	REAKDO	WN (R-3		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	velopmen	+		PE NUMBER AND TITLE 0305158F Cons	AND TITLE	PE NUMBER AND TITLE 0305158F Constant Source	ø			
PROJECT NO. AND NAME 4071 Constant Source										
(U) A. Project Cost Breakdown (S in Thousands)	\$ in Thousand	(§)								
			FY 1995		FY 1996	FY 1997				
(U) Software Development			1,921	1	0	0				
			207	7	0 (0				
	ort		286	9 +	-	-				
(U) System Engineering Support			514 101	4 ⊷		-				
			96	4	0	0				
(U) Total			3,123	3						
(U) B. Budget Acquisition History and Planning Information (S in Thousands)	y and Plannir	ig Information	(\$ in Thousar	(spi						
Performing Organizations:										
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office EAC	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Program	
Product Development Organizations BTG, Inc. SS/CPAF Synectics CPFF	Sep 92 Mar 94	840	840	6,403	1,491	·			7,894	
Support and Management Organizations MITRE Ong TEMS Ong	itions Ongoing Ongoing			509 451	551 241				1,060	
			Pa	Page 8 of 19 Pages	ses			Exhibit R-3	R-3	

RC	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	3RAM EL	EMENT/F	ROJECT	COSTB	REAKDO	JWN (R-	≅	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	al System D	evelopmer	ıt		PE NUMBEF 030515	PE NUMBER AND TITLE 0305158F Const	PE NUMBER AND TITLE 0305158F Constant Source	D		
PROJECT NO. AND NAME 4071 Constant Source	NAME Source									
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Test and Evaluation Organizations Not Applicable.	on Organizations				Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Government Furnished Property: Not Applicable.	nished Property:									
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	Development and Management Evaluation				6,403 960					8,734 1,752
Total Project					7,363					10,486
				Pa	Page 9 of 19 Pages	ses			Exhibit R-3	R-3
					•					





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	FION SE	HEET (R	-2 Exhil	bit)		DATE	March 1996	9
вирсет астічіту 7 - Operational System Development		PE NU 030	PE NUMBER AND TITLE 0305158F Cons	OTITLE Constant Source	Source				
PROJECT NO. AND NAME 4394 Combat Intelligence System							:		
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
4394 Combat Intelligence System	0	2,009	2,035	607	569	586	594	твр	ТВО
Note: Beginning in FY96, funding for the Constant Source program is divided into two projects, Combat Intelligence System (CIS) and Radio.	ogram is divi	ded into two	projects, Co	ombat Intelli	gence Syster	m (CIS) and	Radio.		
(U) FY 1996 (\$ in Thousands): - (U) \$ 477 Complete SCI level correlation enhancements - (U) \$1,217 Auto Associator Enhancements under Theater Ballistic Management (TBM) Core Systems - (U) \$ 315 Conduct Studies for future CIS intelligence interoperabilities - (U) \$2,009 Total	ncements 2r Theater Ballistic Mana ligence interoperabilities	llistic Mana perabilities	gement (TB	M) Core Sys	stems				
 (U) FY 1997 (\$ in Thousands): (U) \$ 245 Continue studies for CIS intelligence interoperabilities (U) \$1,215 Continue CIS software development under TBM Core Systems (U) \$ 575 Implement results of studies into CIS software under TBM Core Systems (U) \$2,035 Total 	e interoperabi under TBM (S software un	llities Core System der TBM Co	is ore Systems						
		Page 10 of 19 Pages	'19 Pages				Exhibit R-2	3-2	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R	-2 Exhib	it)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305158F Constant Source	ा⊺∟E onstant S	ource	
PROJECT NO. AND NAME 4394 Combat Intelligence System		i		
(U) B. Program Change Summary (\$ in Thousands)				
 (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram 	FY 1996 2,163 -73 -59 -22	<u>FY 1997</u> 2,138	Total <u>Cost</u> Continuing	
(U) Adjustments to Budget Years Since FY 1996 PB(U) Current Budget Submit/President's Budget	2,009	-103 2,035	Continuing	
(U) Change Summary Explanation: Funding: Reflects a transfer of funds from the Constant Source Operato	Source Operator Terminal (CSOT) project to this project.	project to thi	s project.	
Schedule: N/A				
Technical: N/A				
(U) C. Other Program Funding Summary (S in Thousands)				
Pag	Page 11 of 19 Pages			Exhibit R-2

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-2 Exhibit)	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305158F Constant Source	
PROJECT NO. AND NAME 4394 Combat Intelligence System		
(U) D. <u>Schedule Profile</u>		
(U) Combat Intelligence System (CIS)	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
(U) Formal Request for Proposal X (U) CIS 1.1 Release (U) Contract Award (U) Contract Award (U) Contract Award (U) Contract Award (U) Contract Award (U) Contract Award (U) Contract Award (U) Contract Award (U) Contract Award (U) Contract Award (U) Contract Award (U) Contract Award (U) Contract Award (U) Contract Award	×	
(U) Development Test & Evan (D1 & E) Start (U) DT&E Complete for Software (S/W) Increment #1	×	
(U) Initial Operational Test & Eval (IOT&E) Start (I) IOT&E Complete for S/W #1	×	
(U) Initial Operational Capability	×	
d	Page 12 of 19 Pages	Exhibit R-2

RD	RDT&E PROGRAM ELEMENT/	RAM ELI	EMENT/P	PROJECT	COSTB	REAKD(COST BREAKDOWN (R-3)	<u>@</u>	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	l System De	velopmen			PE NUMBEI 030515	PE NUMBER AND TITLE 0305158F Const	PE NUMBER AND TITLE 0305158F Constant Source	9			
PROJECT NO. AND NAME 4394 Combat Intelligence System	IME elligence Syst	em									
(U) A. Project Cost Breakdown (\$ in Thousands)	rt Breakdown (\$	in Thousand	(3		1 1 1 1 1 1						
				FY 1995		FY 1996	FY 1997				
(U) Software Development (U) Total	opment				0 0	2,009 2,009	2,035 2,035				
(U) B. Budget Acquisition History and Planning Information (S in Thousands)	uisition History	and Plannin	. Information	(\$ in Thousan	<u>ds)</u>						
Performing Organizations:	zations:										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations Loral Command & SS/CPAF Ctrl Systems F19628-95-C0143	nt Organizations SS/CPAF	Oct 95	TBD	TBD	0	0	2,009	2,035	Cont	Cont	
Support and Management Organizations None	ment Organizati	<u>suoi</u>									
Test and Evaluation Organizations None	Organizations										•
				Dage	Pare 13 of 10 Pares	300			, 11 12 13 14 14 14 14 14 14 14 14 14 14 14 14 14	Ç	******
			,	1 48	1507	New York			EXHIBIT K-3	2.3	





System System istory and Planning Fry: N/A Fype Award or ng Obligation Date	Information Continued (\$	PE NUMBER AND TITLE 0305158F Cons	4D TITLE				
4394 Combat Intelligence System (U) B. Budget Acquisition History and Planning Government Furnished Property: N/A Contract Method/Type Award or Item or Funding Obligation Description Vehicle Date	Information Continued (\$			Constant Source			
	Information Continued (S						
Contract Contract Method/Type Award or or Funding Obligation Vehicle Date		in Thousands)	 				
Contract Method/Type Award or or Funding Obligation ription Vehicle Date							
	Delivery <u>Date</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Product Development Property None							
Support and Management Property None							
Test and Evaluation Property None							
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation		0	2,009	2,035	Cont	Cont	
Total Project		0	2,009	2,035	Cont	Cont	
				·			
	Pag	Page 14 of 19 Pages	Si			Exhibit R-3	- -3

RD	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	-2 Exhil) Sit)		DATE	March 1996	9
BUDGET ACTIVITY 7 - Operational Sy	BUDGET ACTIVITY 7 - Operational System Development		PE NU 030	PE NUMBER AND TITLE 0305158F Cons	Constant Source	Source				
PROJECT NO. AND NAME 4395 Radio										
	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
4395 Radio		0	883	879	263	246	253	257	TBD	TBD
(U) A. Mission Descrip	(U) A. Mission Description and Budget Item Justification									
(U) FY 1996 (\$ in Thousands): - (U) \$ 150 Plan and s - (U) \$ 633 Support M - (U) \$ 100 Support m - (U) \$ 883 Total	 <u>Thousands):</u> Plan and support integration on DoD aircraft and weapon systems Support MATT radio P³I development effort Support migration of MATT into next generation tactical terminal Total 	aircraft and weapon systems nt effort tt generation tactical terminal	weapon syst tactical tern	ems ninal						
(U) <u>FY 1997 (\$ in Thousands)</u> : - (U) \$ 150 Plan and s - (U) \$ 629 Support M - (U) \$ 100 Support m - (U) \$ 879 Total	 <u>Chousands</u>): Plan and support integration on DoD aircraft and weapon systems Support MATT radio P³I development effort Support migration of MATT into next generation tactical terminal Total 	aircraft and it effort t generation	aircraft and weapon systems it effort it generation tactical terminal	ems uinal						
			Page 15 of 19 Pages	19 Pages				Exhibit R-2	-2	



RDT&E BUDGET ITEM JUSTIFICAT	TIFICATION SHEET (R-2 Exhibit)	R-2 Exhib	it)	DATE March 1996
вирсет АСТІVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305158F CONS	PE NUMBER AND TITLE 0305158F Constant Source	ource	
PROJECT NO. AND NAME 4395 Radio				
(U) B. Program Change Summary (S in Thousands)				
(U) Previous President's Budget	FY 1996 926	FY 1997 916	Total Cost Continuing	
(U) Appropriated Value(U) Adjustments to Appropriated Valuea. Cong Gen Reductions	.34 -34			
b. SBIR c. Omnibus or Other Above Threshold Reprogram	6-			
(U) Current Budget Submit/President's Budget (O) Unrent Budget Submit/President's Budget	883	-37 879	Continuing	
(U) Change Summary Explanation: Funding: FY97 funding reduction (-\$37) due to inflation rate changes.	es.			
Schedule: N/A				
Technical: N/A				
(U) C. Other Program Funding Summary (\$ in Thousands)				
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	CATION SHEET (R-2 Exhibit)	E March 1996
вирсет астіміту 7 - Operational System Development	PE NUMBER AND TITLE 0305158F Constant Source	
PROJECT NO. AND NAME 4395 Radio		
(U) D. Schedule Profile		
U) FY95 Production Run/Deliveries X Start (U) Exercise FY96 Production Option (U) FY96 Production Run/Deliveries Start (U) Exercise FY97 Production Option (U) FY97 Production Run Start (U) Delivery to Platform Start (U) Delivery to Platform Start	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	
	Page 17 of 19 Pages	Exhibit R-2





RD	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	SRAM EL	EMENT/P	ROJECT	COST B	REAKDO	WN (R-3	<u>(</u>	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	al System Do	evelopmen	it		PE NUMBER AND TITLE 0305158F Cons	RAND TITLE	TITLE Constant Source	0			
PROJECT NO. AND NAME 4395 Radio	JAME										
(U) A. Project Cost Breakdown (\$ in Thousands)	ost Breakdown	S in Thousand	हि								
				FY 1995		FY 1996	FY 1997				
 (U) Software Development (U) Program Management (U) Travel (U) Government Engineeri (U) System Engineering St (U) Total 	Software Development Program Management Support Travel Government Engineering Support System Engineering Support Total	ort			00000	142 240 100 230 171 883	192 230 100 230 127 879				
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	cquisition Histor	ry and Plannin	ng Information	(\$ in Thousa	(spu						
Performing Organizations: Contractor or Contrac Government Method Performing or Fund Activity Vehicle	nizations: Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations Allied Signal, FFP Inc. MDA911-93- C008	ent Organization FFP	<u>s</u> Apr 93	TBD	TBD	·		543	549	Cont	Cont	
Support and Management Organizations MITRE Ong F19628-94-	gement Organiz	ations Ongoing					170	165	Cont	Cont	
				Pa	Page 18 of 19 Pages	ıges			Exhibit R-3	R-3	
					1517						

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	RAM EL	EMENT/	PROJECT	COSTB	REAKD(JWN (R-	3)	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	velopmer	ıţ		PE NUMBEF 030515	PE NUMBER AND TITLE 0305158F Const	PE NUMBER AND TITLE 0305158F Constant Source	ø		
PROJECT NO. AND NAME 4395 Radio									
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle TEMS Various Contractors	Award or Obligation <u>Date</u> Ongoing	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget <u>FY 1996</u> 185	Budget FY 1997 183	Budget to Complete Cont	Total <u>Program</u> Cont
Test and Evaluation Organizations None									
Government Furnished Property: N/A	N/A								
Product Development Property None									
Support and Management Property None Test and Evaluation Property None									
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation					543 340	549 330	Cont	Cont	
Total Project					883	879	Cont	Cont	
			Pa	Page 19 of 19 Pages	ses			Exhibit R-3	2-3





	RDT&E BUDGET ITEM JUS	STIFICATION SHEET (R-2 Exhibit)	ION S	HEET (R	-2 Exhil	bit)		DATE	March 1996	96
BUDGET ACTIVITY 7 - Operations	зирдет АСТІVITY 7 - Operational System Development		PE NU 030	PE NUMBER AND TITLE 0305160F Def I	רודוב Oef Metec		Satellite	ठमात∟ह Def Meteorological Satellite Prog (Space)	pace)	
PROJECT NO. AND NAME	IAME									
	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
0001 DMSP		18,599	19,913	17,964	16,901	19,622	20,607	19,694	Continuing	Continuing
(U) A. Mission D The Defense I require timely weather data. information. 450nm polar of systems develo	(U) A. <u>Mission Description and Budget Item Justification</u> The Defense Meteorological Satellite Program (DMSP) is a fully operational Joint-Service program which supports all military services. Operational commanders require timely, quality weather information to effectively employ weapon systems and protect DoD resources. DMSP is the DoD's most important source of global weather data. It provides visible and infrared cloud cover imagery (1/3 nm constant resolution) and other meteorological, oceanographic, and solar-geophysical information. These data are required over the entire earth in support of strategic and tactical operations. At least two satellites are required in sun synchronous 450nm polar orbit at all times (sun synchronous means the satellites cross the equator at the same local sun time on each of their 14 orbits/day). DMSP operational systems development supports the current operational DMSP program.	a fully operatingly weapormagery (1/3 in support of satellites crees.	ional Joint- in systems a nm constan is strategic au sss the equar	Service prog nd protect D t resolution) nd tactical of tor at the sa	gram which a long resource and other reperations. A me local sun me local sun	supports all is. DMSP is neteorologic at least two s time on eac	military serv the DoD's r al, oceanogr atellites are h of their 14	rices. Operationst importations and se aphic, and se required in storbits/day).	tional comnut source of olar-geophy sun synchro	nanders global sical nous rational
(U) <u>FY 1995</u> - (U) \$15,292 - (U) \$1,100 - (U) \$1,667 - (U) \$540 - (U) \$18,599	Conducted system integration and test, calibration and validation, and related support activities. Supported Small Tactical Terminal (STT) IOT&E and started enhanced algorithm development. Initiated MARK IVB tactical weather terminal enhanced algorithm integration effort. Continued Titan integration effort Total	bration and v IOT&E and i inal enhance	/alidation, a started enha d algorithm	nd related s nced algorit integration	upport activi hm developi effort.	ities. ment.				
(U) <u>FY 1996</u> - (U) \$16,256 - (U) \$1,950 - (U) \$300 - (U) \$238 - (U) \$1,169 - (U) \$11,169	Continue system integration and test, calibration and validation, and related support activities. Continue enhanced STT algorithm development. Continue MARK IVB tactical weather terminal enhanced algorithm integration. Continue Titan integration effort. Support civilian/military command and control consolidation efforts. Total	ration and va ment. ninal enhanc ntrol consolic	ilidation, an ed algorithn lation effort	d related suy n integration s.	pport activiti	es.				
			Page 1 of 6 Pages	6 Pages				Exhibit R-2	-2	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (F		DATE March 1996
ВИDGET АСТІVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305160F Def I	D305160F Def Meteorological Satellite Prog	Prog (Space)
PROJECT NO. AND NAME 0001 DMSP			
 (U) FY 1997 (U) \$12,647 (D) \$2,268 (D) \$700 (D) \$2,349 (D) \$2,349 (D) \$17,964 (D) \$17,964 	tion and validation, and related support ac gorithm development and implementation. nd and control consolidation efforts.	pport activities. entation. ts.	
(U) B. Program Change Summary (\$\frac{5}{10}\$ in Thousands)			
(U) Previous President's Budget (U) Appropriated Value	$\frac{\text{FY } 199\underline{6}}{21,464}$	$\frac{\text{FY 1997}}{18,510}$	
Adjustments to Appropriate value a. Cong Gen Reductions b. SBIR c. Omnibus or Above Threshold Reprogramming -15	-812 -474 -265		
d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY96 PB (U) Current Budget Submit/President's Budget	19,913	-546 17,964	
(U) Change Summary Explanation: Funding: \$546 of FY97 Reductions for inflation savings. Additional F not reflected in the amounts.	'Y97 \$1.7M reductio	Additional FY97 \$1.7M reduction approved to fund Miniature Sensor Technology Integration program	Fechnology Integration program
Schedule: Launches of F-12 and F-13 were successful. Launch of F-1	Launch of F-14 anticipated in 2FY98	86	
Technical: No changes.			
	Page 2 of 6 Pages		Exhibit R-2





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	JUSTIFIC	ATION	SHEE	T (R-2	Exhib	it)		DATE Mai	March 1996	
BUDGET ACTIVITY 7 - Operational System Development		L.	PE NUMBER AND TITLE 0305160F Def I	AND TITL)F Def	E Meteor	ologica	Satellite	PE NUMBER AND TITLE 0305160F Def Meteorological Satellite Prog (Space)	ace)	
PROJECT NO. AND NAME 0001 DMSP										
(U) C. Other Program Funding Summary (\$ in Thousands)	usands)									
(U) Missile Procurement (U) Other Procurement	۲.	[<u>T.</u>	<u>.</u>	FY 1998 E 32,776 16,576	FY 1999 32,407 15,140	FY 2000 33,540 11,279	FY 2001 35,318 9,338	To Compl Cont	Total Cost Cont	
(U) PE #803434F, National Polar Operational Environmental Satel (U) PE #305160N, DMSP (provides funds for Navy unique studies)		Satellite System (NPOESS) idies)	OESS)							
(U) D. Schedule Profile										
1 2	FY 1995 2 3	4	FY 1996 2 3	2) E 4	_	$\frac{\text{FY 1997}}{2}$	$\frac{97}{3}$ 4			
RK IVB Deliveries X Il Tactical Terminal First	×			×	M					***
Delivery (U) Small Tactical terminal IOT&E (U) 5D-3 Spacecraft Delivery Schedule	×			×		×	×			
(S16-19) (U) Planned 5D-2 Launches (F-14/S-15)										
		Page	Page 3 of 6 Pages	ies				Exhibit R-2		
			, , , ,							

RDI	&E PRO	RDT&E PROGRAM ELEMENT/	EMENT/PR	OJECT	COSTB	REAKD	PROJECT COST BREAKDOWN (R-3)	3)	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	System D	evelopmen			PE NUMBER AND TITLE 0305160F Def I	AND TITLE OF Def M	eteorolog	ical Sate	Def Meteorological Satellite Prog (Space	(Space)	
PROJECT NO. AND NAME 0001 DMSP	ME										
(U) A. Project Cost Breakdown (S in Thousands)	t Breakdown	(\$ in Thousand	(5								
				FY 1995		FY 1996	FY 1997				
(U) Launch Vehicle Transition	Transition			540		238	700				
	ration			4,465		4,658	4,631				
_	dation			325	•	295	348				
	lopment			1,632		1,180	1,068				
	mance Incentiv	es (primary ser	isor))		0	0				
	F Enhancemen	ıts		2,767		2,250	2,268				
	ering Support			5,547		4,696	3,455				
	gence Studies			0		0	0				
	ement Support			3,323		5,427	3,145				
	Control Consol	idation		0		1,169	2,349				
(U) Total				18,599		19,913	17,964				
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	uisition Histor	y and Plannin	Information (\$	in Thousan	<u>(Sp</u>						
Performing Organizations:	zations:										
Contractor or Government Performing	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office EAC	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations	t Organizations					•	,	,			
Mestingbonse	SS/CPAF/PR	Apr 92	6,426	0,426	2,727	1,052	1,590	1,057	0	6,426	
Westinghouse Westinghouse	SS/CFAF/FR	Apr 90	3,785	3,763	5,785	o ;	o į	0 :	0	3,785	
westingnouse Legipted	SS/CPAF/PK	May 95	3,789	3,789	0	555	771	956	1,507	3,789	
Harris	C/CPAF/PR	Oct 88 Jun 94	42,673 6,738	42,673 6,738	39,266 2,860	1,667 1,100	300 1,950	1,440 828	0 0	42,673 6,738	
				Pag	Page 4 of 6 Pages	S			Exhibit R-3		



RD	RDT&E PROGRAM ELEMENT	SRAM EL		/PROJECT	COST BI	ZEAKD(COST BREAKDOWN (R-3)	3)	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	d System Do	evelopmen	ıt		PE NUMBER AND TITLE 0305160F Def I	AND TITLE F Def M	ो गा⊓∈ Def Meteorological Satellite Prog	ical Satel	lite Prog ((Space)	
PROJECT NO. AND NAME 0001 DMSP	AME										
Contractor or Government Performing Activity Cont	Contract Method/Type or Funding Vehicle SS/FPIF/PR	Award or Obligation <u>Date</u> Oct 94	Performing Activity EAC	Project Office <u>EAC</u>	Total Prior to FY 1995 282	Budget <u>FY 1995</u> 540	Budget FY 1996 238	Budget FY 1997 700	Budget to Complete Cont	Total <u>Program</u> Cont	
Aerojet Aerojet Hughes Phillios Lab		_	2,809 36,111 1,297	2,809 36,111 1,297	787 35,886 1,082 2,096	778 103 108 1,452	639 122 107 1,236	605 0 0 0 1,304	0 0 0 Cont	2,809 36,111 1,297 Cont	
Martin-Marietta Lockheed NRL APL TBD	C/CPAF/PR C/CPAF/PR MIPR/PD/PO MIPR/PD/PO TBD		7,026 6,893 Consolidation	7,026	7,026 7,026 6,893 755 200 0	1,454 374 0	0 0 1,132 520 645	1,056 0 1,056 527 2,349	Cont Cont O	7,026 6,893 Cont Cont 2,994	
Other	Various				1,603	546	540	542	Cont	Cont	
Support and Management Organizations FFRDC MORD C PRC C/CPA/PR A Program Mgmt Litigation Support Other Various J	gement Organizz MORD C/CPA/PR Various	ations Oct 95 Aug 95 Aug 95 Jul 91 Conv Spt			4,171 0 2,359 0 1,958	4,647 900 2,721 602 0	3,230 1,466 4,227 1,200 0	1,799 1,656 3,145 0	Cont Cont Cont	Cont Cont Cont 1,802 1,958	
Test and Evaluation Organizations Not Applicable.	n Organizations	·		Pa	Page 5 of 6 Pages	es			Exhibit R-3	R-3	·

Per NuMages And Differ Page 2 Page 2 Page 2 Page 2 Page 3 Pag	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BRE	AKDOW	VN (R-3)		рате М а	March 1996
Property: Not Applicable. 105,248 9,729 9,790 11,364 Contamagement 8,488 8,870 10,123 6,600 Contamagement 113,736 18,599 19,913 17,964 Contamagement 113,736 18,739 19,913 17,964 Contamagement 113,736 18,739 19,913 17,964 19,913 18,739 19,913 18,739 19,913 18,739 19,913 18,739 19,913 18,739 19,913 18,739 19,913 18,739 19,913 19,913 18,739 19,913 19,913 18,739 19,913 18,739 19,913 18,739 19,913 18,739 19,913 19,913 18,739	BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND 0305160F	Def Mete	orologica	al Satellite		(Space)
9,729 9,790 11,364 8,870 10,123 6,600 18,599 19,913 17,964	PROJECT NO. AND NAME 0001 DMSP						
9,729 9,790 11,364 8,870 10,123 6,600 18,599 19,913 17,964	(U) B. Budget Acauisition History and Planning Information Continued (S.	in Thousands)					
105,248 9,729 9,790 11,364 8,488 8,870 10,123 6,600 113,736 18,599 19,913 17,964	Government Furnished Property: Not Applicable.						
113,736 18,599 19,913 17,964	Subtotal Product Development Subtotal Support and Management	105,248 8,488	9,729 8,870	9,790 10,123	11,364 6,600	Cont	Cont
	Project Total		18,599	19,913	17,964	Cont	Cont
Page 6 of 6 Pages Exhibit R-	Pa	ge 6 of 6 Pages				Exhibit R-3	m

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION SE	LEET (R	-2 Exhit	jŧ.		DATE	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development		PE NL 030	PE NUMBER AND TITLE 0305164F Navs	ртіть Navstar Global Pos Sys (User Eq) (Space)	lobal Pos	s Sys (Us	ser Eq) (\$	Space)	
PROJECT NO. AND NAME 3028 Navstar GPS (User Equipment)									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3028 Navstar GPS (User Equipment)	13,781	16,460	32,450	24,599	24,639	23,076	17,761	Continuing	Continuing
(U) A. Mission Description and Budget Item Justification									
The Global Positioning System (GPS) is a space-based radio positioning, navigation, and time distribution system. GPS User Equipment (UE) consists of standardized receivers, antennas, antenna electronics, etc., grouped together to form sets which derive navigation and time information utilizing data transmitted by the satellites. These receivers are used by all the Services and DoD. RDT&E funds UE development and testing, studies and engineering to assist integration into aircraft, software upgrades, product improvement studies, testing and evaluation of commercial GPS UE, and mission support. UE passed DAB Milestone IIIB in January 92 and is therefore in the budget activity/research category of Operational Systems Development.	adio positionir c., grouped tog ss and DoD. R s, testing and (io positioning, navigation, and time distributio, grouped together to form sets which derive na and DoD. RDT&E funds UE development and testing and evaluation of commercial GPS UE, category of Operational Systems Development.	m, and time m sets which is UE develo f commercial Systems Dev	distribution s derive navig pment and te I GPS UE, ar	system. GPS gation and ti sting, studie ad mission s	S User Equi me informa ss and engin upport. UE	pment (UE) tion utilizin eering to as passed DAI	lio positioning, navigation, and time distribution system. GPS User Equipment (UE) consists of grouped together to form sets which derive navigation and time information utilizing data transmitted b and DoD. RDT&E funds UE development and testing, studies and engineering to assist integration into testing and evaluation of commercial GPS UE, and mission support. UE passed DAB Milestone IIIB in category of Operational Systems Development.	nitted by on into IIB in
 (U) FY 1995 (\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\	ent testing for block upgrade at improvemen oduct improve oncept Techno ader Locator (nstration. ty Anti-Spoof congress nt.	aircraft inte; for 5-chann nt studies. ment testing ulogy Demon (CSEL).	grations. tel GPS airbo for user equ stration (AC	orne receiver ipment. (TD).	efforts. Does	not reflect	+\$1,135 Ab	ove Threshol	Ð

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Page 1 of 8 Pages

Exhibit R-2

RDT	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ET (R-2 Exhibit) DATE March 1996	96
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0305164F Navstar Global Pos Sys (User Eq) (Space)	
PROJECT NO. AND NAME 3028 Navstar GPS (User Equipment)	er Equipment)		
(U) FY 1996 (\$ in Thousands)	housands)		
- (U) \$452	Continue integration studies.		
- (U) \$667	Continue to support development testing for aircraft integrations.	ns.	
- (U) \$235	Continue developing software block upgrade for 5-channel GPS airborne receiver.	S airborne receiver.	
	Conduct GPS receiver product improvement studies.		
	Continue development and product improvement testing for user equipment.	ser equipment.	
		ration.	
	Continue commercial GPS receiver evaluation and certification program.	n program.	
	Continue support contracts.		
- (U) \$1,924 - (T) \$800	Commiss Hands On Threat Demonstration		
	Continue Selective Availability Anti-Spoof Module development	Į.	
	Total		
(U) FY 1997 (\$ in Thousands)	ionsands)		
– (U) \$200	Continue integration studies.		-
698\$ (D) -	Continue to support development testing for aircraft integrations.	ns.	
	Continue developing software block upgrade for 5-channel GPS airborne receiver.	S airborne receiver.	
	Conduct GPS receiver product improvement studies.		
	Continue development and product improvement testing for user equipment.	ser equipment.	
	Continue commercial GPS receiver evaluation and certification program.	n program.	
	Continue Advanced Concept Technology Demonstration.		
	Continue support contracts.		
	Continue in-house support.	•	
	Continue Selective Availability Anti-Spoot Module (SAASM) development.	development.	
	Investigate GPS signal prevention/protection development options consistent with GPS NAVWAR program.	ions consistent with GPS NAVWAR program.	
- (U) \$32,450	Total		
	Page 2 of 8 Pages	iges Exhibit R-2	•





RDT&E BUDGET ITEM JUSTIFICATI	ON SHEET (STIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305164F Navs	PENUMBER AND TITLE 0305164F Navstar Global Pos Sys (User Eq) (Space)	er Eq) (Space)
PROJECT NO. AND NAME 3028 Navstar GPS (User Equipment)			
(U) B. Program Change Summary (\$ in Thousands)			
(U) Previous President's Budget 9,871 (U) Appropriated Value 9,621	FY 1996* 17,371 17,371	FY 1997 14,891	
(U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBR - 203	-345 -354 -312		
d. Below Threshold Reprogramming + 4,363 (U) Adjustments to Budget Years Since FY96 PB	16,460	+ 17,559	
(U) Change Summary Explanation:			
Funding: FY95 "Below Threshold Reprogramming" reflects an increase for accelerating SAASM and CSEL study efforts. "Omnibus or Other Above Threshold Reprogramming" for FY95 does not yet reflect Congressionally approved ATR for SAASM and CSEL acceleration (\$1,135). FY96 amount (\$-212) addresses Bosnia reductions. "Adjustment to Budget Years since FY96 PB" in FY97 reflects increased funding for Advanced Concept Technology Development (ACTD) and NAVWAR prevention/protection efforts and decreases associated with the Non-Pay Inflation reduction. * The FY96 PB amount does not reflect funding reductions that are reserved for other DoD reprogramming needs (\$181)	se for accelerating ved ATR for SAAS FY97 reflects increwith the Non-Pay I reed for other DoD	reflects an increase for accelerating SAASM and CSEL study efforts. "Omnibus or Other Above Threshold ressionally approved ATR for SAASM and CSEL acceleration (\$1,135). FY96 amount (\$-212) addresses noe FY96 PB" in FY97 reflects increased funding for Advanced Concept Technology Development (ACTD) reases associated with the Non-Pay Inflation reduction.	

Page 3 of 8 Pages

Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICAL	HS NOI	EET (R	2 Exhib	it)		DATE Mar	March 1996	
BUDGET ACTIVITY 7 - Operational System Development		PE NUI 030	PE NUMBER AND TITLE 0305164F Navs	TLE avstar Gl	obal Pos	Sys (Use	PE NUMBER AND TITLE 0305164F Navstar Global Pos Sys (User Eq) (Space)	ace)	
PROJECT NO. AND NAME 3028 Navstar GPS (User Equipment)									
(U) C. Other Program Funding Summary (\$ in Thousands)	S						Ę		
(U) Operations and Maintenance 949 (U) Aircraft Procurement (BP16) 1,782 (U) Aircraft Procurement (BP19) 70,137 (U) Other Procurement (BA 83/86) 3,749 (U) OSD RDT&E (ACTD Funding: PE 63750D)	EY 1996 1,790 2 803 7 41,707 9 1,012 6,669	FY 1997 979 200 42,831 3,360 4,500	FY 1998 1019 990 40,658 3,176 3,900	EY 1999 1064 1,274 47,975 4,140 900	FY 2000 1092 1,343 53,432 4,026	FY 2001 1107 1,112 61,265 4,070	Compl Cont Cont Cont Cont	Cont Cont Cont Cont	
Related RDT&E: (U) PE #305165F, Navstar GPS (Space/Grd Segments) (U) PE #604480F, GPS Block IIF (U) PE#305176F, Combat Survivor/Evader Locator									
		Page 4 of 8 Pages	Pages				Exhibit R-2		



RDT&E BUDGET ITEM JUSTIFICATI	STIFICATION SHEET (R-2 Exhibit) DATE Ma	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305164F Navstar Global Pos Sys (User Eq) (Space)	pace)
PROJECT NO. AND NAME 3028 Navstar GPS (User Equipment)		
(U) D. <u>Schedule Profile</u> FY 1995 1 2 3 4	$\frac{\text{FY 1996}}{2 3 4 1 2 3 4}$	
(U) Advanced Receiver Technology (U) Brassboard Delivery (U) Anti-Jam Development (MCM)	. ×	
(U) Prototypes x (U) Qual Test x (U) Integration Complete	×	
(U) Testing Complete (U) Broadband Anti-Jam Contract Start (U) MAGR ECP Development (U) MAGR ECP Davelopment	× ×	
(U) CLS Integration Studies Complete x (U) F-16 Study Complete (U) SAASM	*	
(U) Brassboard Test x (U) Multichip Module (MCM) Testing Start	×	
 (U) Development Test Start (U) OTE (U) MAGRU/3AU (Receiver Upgrades) (U) Spec Development (U) Design & Build Prototype 	* * *	
	Page 5 of 8 Pages Exhibit R-2	.2

RDT&E PROGRAM ELEMENT/PR	PROJECT CO	ST BREAK	COST BREAKDOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE 1	PE NUMBER AND TITLE 0305164F Navs	ोगा। Navstar Global Pos Sys (User Eq) (Space)	(User Eq) (Space)
PROJECT NO. AND NAME 3028 Navstar GPS (User Equipment)				
(U) A. Project Cost Breakdown (\$ in Thousands)				
	FY 1995	FY 1996	FY 1997	
(U) Integration Studies	485	452	200	
(U) Technical Support for Aircraft Integrations (U) Independent Verification and Validation	804	486	698	
	1,165	3,021	3,480	
	175	2.692	3.450	
	187	235	193	
	918	1,709	750	
(U) Development & Product Improvement Testing	220	612	970	
(U) Civilian Receiver Evaluation Program (CREP) / Advanced Civilian Receiver Evaluation Program		400	850	
(A) Support Contracts	2.333	3.948	4.027	
	1,714	1,924	3,028	
	15	Q		
(U) Selective Availability database update.	1,250	000		
		Ç	14,633	
(U) Total	*13,781	181 16,460	32,450	
* Does not reflect Above Threshold Reprogramming (\$1,135) approved by Congress	oved by Congress			
	Page 6 o	Page 6 of 8 Pages		Exhibit R-3







8	RDT&E PROGRAM ELEMENT/PROJECT	RAM EL	EMENT/	PROJECT		COST BREAKDOWN (R-3)	OWN (R-	3)	DATE	March 1006	
BUDGET ACTIVITY 7 - Operations	JDGET ACTIVITY - Operational System Development	velopme	nt		PE NUMBER AN 0305164F	PE NUMBER AND TITLE 0305164F Navst	υπτιε Navstar Global Pos Svs (User Eα) (Space)	Pos Svs	(User Ea)	(Space)	
PROJECT NO. AND NAME 3028 Navstar GPS (User Equipment)	NAME PS (User Equip	ment)								(2007)	
(U) B. Budget Acquisition History and Planning Information (S in Thousands)	equisition Histor	y and Planni	ng Informatio	n (\$ in Thousa	(spu						
Performing Organizations:	nizations:										
Contractor or Government Performing	Contract Method/Type or Funding	Award or Obligation	Performing Activity	Project Office	Total Prior to	Budget	Budget	Budget	Budget to	Total	
Activity	Vehicle	<u>Date</u>	EAC	EAC	FY 1995	FY 1995	FY 1996	FY 1997	Complete	Program	
Product Development Organizations Rockwell FPIF/FFP/	ent Organizations FPIF/FFP/	Various	Cont	Cont	18,871	187	235	193	Cont	Cont	
DOE-Sandia	CFAF	Feb 96	Cont	Cont	1,035	150	1,351	630	Cont	Cont	
NAWC (SAASM)	MIPR	Various	4,265	4,265	0	930	1,155	2,180	0	4,265	
Honeywell Inc	Unknown	n/a	2,000	2,000	2,000	0	0	0	0	2,000	
General Dynamics OO-ALC (F-16 Study)	Unknown Project Order	Jan 96 n/a	1,810	1,810 327	873 327	485	452 0	0 0	0 0	1,810 327	
Various (ACTD/Protection/	Various	Various	Cont	Cont	0	175	2,654	18,490	Cont	Cont	
Frevention) Miscellaneous	Various	Various	Cont	Cont	6,163	7,587	3,541	1,682	Cont	Cont	
Support and Management Organizations Overlook Sys C/CPFF De (OASD/C31)	gement Organizati C/CPFF	ions Dec 95	Cont	Cont	8,076	1,200	1,300	1,300	Cont	Cont	
Aerospace Corp (Technical Supt)	Unknown	Various	Cont	Cont	0	0	1,305	1,344	Cont	Cont	
		1		P	Page 7 of 8 Pages	es			Exhibit R-3	R-3	
					1607						

0	PDT&F PROGRAM FI FMFNT/PROJECT	RAM FI	FMFNT/F	PROJECT		REAKDO	COST BREAKDOWN (R-3)	3)	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	System Dev		1		· F	AND TITLE	ar Global	Pos Sys (PENUMBER AND TITLE 0305164F Navstar Global Pos Sys (User Eq) (Space)	(Space)	
PROJECT NO. AND NAME 3028 Navstar GPS (User Equipment)	AME PS (User Equip	ment)									
Contractor or Government Performing Activity SMC/FMB	Contract Method/Type or Funding Vehicle Various	Award or Obligation <u>Date</u> Various	Performing Activity <u>EAC</u> Cont	Project Office EAC	Total Prior to FY 1995 650	Budget FY 1995 1,034	Budget FY 1996 0	Budget <u>FY 1997</u> 2,000	Budget to Complete Cont	Total <u>Program</u> Cont	
(Shared Prg Cost) PRC	Unknown	Dec 95	Cont	Cont	0	0	714	735	Cont	Cont	
(Technical Supt) Miscellaneous	Various	Various	Cont	Cont	2,961	1,813	2,553	1,676	Cont	Cont	
Test and Evaluation Organizations 46th TG Project Order	n Organizations Project Order	Dec 95	Cont	Cont	31,445	220	612	970	Cont	Cont	·
(SAASM/Test) 46th TG (CREP/	Project Order	Dec 95	Cont	Cont	0	0	188	850	Cont	Cont	
ACREP/CRCP) 46th TG (ACTD)	Project Order	Jan 96	800	800	0	0	400	400	0	800	
(U) B. Budget Acquisition History and Planning Information Continued (S in Thousands)	equisition Histor	y and Plann	<u>ing Informatic</u>	on Continued (<u>\$ in Thousang</u>	<u>15)</u>					
Government Furnished Property: (U) Not Applicable.	nished Property: le.										
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	Development ind Management Evaluation				29,269 11,687 31,445	9,514 4,047 220	9,388 5,872 1,200	23,175 7,055 2,220	Cont	Cont Cont Cont	
Total Project					72,401	13,781	16,460	32,450	Cont	Cont	
					6					°	
					Page 8 of 8 Pages	rges			EXIIID	- LN-3	





RDT&E	RDT&E BUDGET ITEM JUS	TIFICATION SHEET (R-2 Exhibit)	ION SH	IEET (R	-2 Exhil	oit)		DATE M	March 1996	6
BUDGET ACTIVITY 7 - Operational System Development	Development		PE NU 030	PE NUMBER AND TITLE 0305165F NAV	TTLE IAVSTAR	GPS (Sp	oace/Grd	Segmen	PE NUMBER AND TITLE 0305165F NAVSTAR GPS (Space/Grd Segments) (Space)	(e
PROJECT NO. AND NAME 3030 NAVSTAR GPS (Space/Ground)	e/Ground)									
\$) LSOO	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3030 NAVSTAR GPS (Space/Ground)	nd)	35,258	28,023	42,243	31,684	24,198	11,489	9,436	Continuing	Continuing
(U) A. Mission Description an This program element funds program. This includes: sa ground control segment, inc system. As a post-Mileston	A. Mission Description and Budget Item Justification This program element funds Research and Development for the NAVSTAR Global Positioning System (GPS) space and control segments of the overall GPS program. This includes: satellite development, procurement, and deployment; training simulators; Mission Operation Support Center (MOSC); and operation of the ground control segment, including sustaining engineering, upgrades to the space and ground segments, and R&D efforts to support deployment of the entire GPS system. As a post-Milestone 3 program, we are classified as Budget Activity Research Category 7, Operational Systems Development.	or the NAVS' ent, and deplo upgrades to	FAR Global yment; trai the space ar tivity Resea	Positioning ning simula nd ground se rch Categor	System (GP tors; Mission sgments, and y 7, Operatic	S) space and a Operation I R&D effort	d control seg Support Cei is to support s Developme	gments of the tter (MOSC) deployment ent.	overall GPS; and operati of the entire	on of the GPS
(U) FY 1995 (\$ in Thousands) - (U) \$6,838 Contin - (U) \$21,494 Contin - (U) \$431 Compl - (U) \$5,077 Award - (U) \$1,418 Contin - (U) \$1,418 Contin - (U) \$1,55,258 Total	ued system engineering incued initial Block IIR softweeted upgrade of ES9000. ed Operational Control Segectural Implementation and need Joint Program Office	sluding configure developm are developm gment (OCS) 1 Block IIR F support.	guration ma ent and del consolidate	nagement. ivery to AF' d contract fe	SPACECON or Consolida	I. ted Operator	: Support E	ivironment (COSE), OCS	
(U) FY 1996 (\$ in Thousands) - (U) \$3,000 Begin of the confident of the c	Begin development of Training Simulator. Begin development of Training Simulator. Develop data storage and retrieval system software required for launch and on-orbit operations. Continue system engineering including configuration management. Continue GPS Joint Program Office support. Continue OCS consolidated contract for COSE, OCS Architectural Implementation, and Block IIR full functionality. Initiate Sensor to Shooter accuracy improvement effort Total	imulator. I system soft uding config (ce support. act for COS) y improvemen	vare require uration man E, OCS Arc ant effort	d for launch agement. hitectural Ir	ı and on-orb	it operations on, and Bloc	k IIR full fu	nctionality.		
			Page 1 of 6 Pages	6 Pages				Exhibit R-2	2-2	

RDT&E BUDGET ITEM JUSTIFICATION	STIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0305165F NAVSTAR GPS (Space/Grd Segments) (Space)	Segments) (Space)
PROJECT NO. AND NAME		
3030 NAVSTAR GPS (Space/Ground)		

(U) FY 1997 (\$ in Thousands)

Continue system engineering including configuration management. - (U) \$4,300

Continue GPS Joint Program Office Support. Continue development of training simulator. - (U) \$3,700 - (U) \$1,304

Continue OCS Consolidated Contract for COSE, OCS Architectural Implementation, and Block IIR Full Functionality. - (U) \$12,439

Investigate space/control segment solutions as part of GPS Navigation Warfare (NAVWAR) program. - (U) \$4,000

Continue Sensor to Shooter accuracy improvement effort

- (U) \$16,500 - (U) \$42,243

(U) Acquisition Strategy:

The acquisition strategy is to procure Block IIR and Block IIF satellites to sustain the GPS constellation.

(U) B. Program Change Summary (\$\sqrt{s}\$ in Thousands)

FY 1997	31,434							+ 10,809	42,243
FY 1996*	26,921	25,921		- 507	- 72	-319		+ 3,000	28,023
FY 1995	51,125	36,425		- 398	- 760		6-		35,258
	(U) Previous President's Budget	(U) Appropriated Value	(U) Adjustments to Appropriated Value	a. Cong Gen Reductions	b. SBIR	c. Omnibus or Other Above Threshold Reprogram	d. Below Threshold Reprogramming	(U) Adjustments to Budget Years Since FY96 PB	(U) Current Budget Submit/President's Budget

(U) Change Summary Explanation:

Funding: * The FY96 PB amount does not reflect funding reductions that are reserved for other DoD reprogramming needs (\$271)

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Exhibit R-2





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEE	ET (R-2	Exhibi	t)	ď	DATE Mar	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBE 030516	PE NUMBER AND TITLE 0305165F NAV	E /STAR (3PS (Spa	ce/Grd S	νε ΝUMBER AND TITLE 0305165F NAVSTAR GPS (Space/Grd Segments) (Space)	(Space)	_
PROJECT NO. AND NAME 3030 NAVSTAR GPS (Space/Ground)								
FY96 appropriated amount reflects Congressional reduction. "Omnibus or Other Above Threshold Reprogramming" amount adjusted in FY96 (-319) reflects Bosnia reductions. "Adjustments to Budget Years Since FY96 PB" in FY96 (+3000) reflects an increase for Sensor to Shooter accuracy improvements. "Adjustments to Budget Years Since FY96 PB" in FY97 (+10,809) reflects decreases for the DBOF Rate Offset, Non-Pay Inflation, overhead reductions, and savings associated with the Operational Control Segment contract consolidation and reduced Block IIA/IIR software maintenance efforts; it also reflects increases for Sensor to Shooter accuracy improvements and Navigation Warfare (NAVWAR) denial/protection efforts.	us or Other Al FY96 (+3000 lects decrease solidation and (NAVWAR)	bove Thresh) reflects an s for the Di i reduced Bi denial/prot	oold Reprogrammers of increase face (30F Rate (10ck IIA/III) ection effor	gramming" or Sensor to Offset, Non- R software r rts.	amount adju. Shooter acc Pay Inflation naintenance	sted in FY96 uracy improv , overhead re efforts, it alsc	"Omnibus or Other Above Threshold Reprogramming" amount adjusted in FY96 (-319) reflects 6 PB" in FY96 (+3000) reflects an increase for Sensor to Shooter accuracy improvements. ,809) reflects decreases for the DBOF Rate Offset, Non-Pay Inflation, overhead reductions, and tract consolidation and reduced Block IIA/IIR software maintenance efforts; it also reflects increases Warfare (NAVWAR) denial/protection efforts.	
Schedule: No change.								
Technical: No change.								
(U) C. Other Program Funding Summary (\$ in Thousands)						Ę	Total	
(U) Operations and Maintenance 19,124 33,290 (U) Weapons Procurement 209,623 154,153 (U) Other Procurement 5,220 6,857	FY 1997 28,089 198,636 1 9,737	FY 1998 E 24,789 I 174,700 2645	EY 1999 21,235 172,570 2,313	EY 2000 22,616 295,474 559	FY 2001 25,921 281,151 693	Compl Cont Cont	Cont Cont	
Related RDT&E: (U) PE #0305164F, NAVSTAR GPS (User Equipment) (U) PE #0101221N, Fleet Ballistic Missile System (U) PE #0301357F and 0305913F (formerly 0102433F), Nuclear Detonation Detection System (NDS) (U) PE #0305119F Space Boosters, funds launch services (Delta II) (U) PE #0604480F, GPS Block IIF	Detection Syst	em (NDS)						
D. Schedule Profile	اتما و •	FY 1996	•	FY	<u>FY 1997</u>			
(U) Continue Block IIR software development (U) Delivery of Block IIR software to AFSPC x (U) Continue upgrade of ES9000	7	~	4	7	2 4 (j	. M		
	Page 3 of 6 Pages	ages				Exhibit R-2		

March 1996	0305165F NAVSTAR GPS (Space/Grd Segments) (Space)
PS (Space/G	
<u>[]</u> []	
System Development 03051616 (N-2 EXIIIDIL) PENUMBER AND TITLE 1 System Development 0305165F NAVSTAR GF GPS (Space/Ground)	
PE NUMBER 030516	
BUDGET ACTIVITY 7 - Operational System Development PROJECT NO. AND NAME 3030 NAVSTAR GPS (Space/Ground)	



RDT	RDT&E PROGRAM ELEMENT	RAM EL		PROJECT COST BREAKDOWN (R-3)	COST BI	REAKDC	WN (R-3		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	System De	velopmen			PE NUMBER AND TITLE 0305165F NAV	AND TITLE SF NAVS	TAR GPS	(Space/G	rd Segme	ЭТІТІЕ NAVSTAR GPS (Space/Grd Segments) (Space)	
PROJECT NO. AND NAME 3030 NAVSTAR GPS (Space/Ground)	^{AE} PS (Space/G	round)									
(U) A. Project Cost Breakdown (S in Thousands)	Breakdown (§ in Thousand	<u>1s)</u>				,				_
				FY 1995		FY 1996	FY 1997				
(U) Block IIR Data Storage/Retrieval System Development (U) Operational Control Segment (OCS)	torage/Retrievatrol Segment (C	al System Dev OCS)	relopment	27,002		2,200 13,621	12,439				
	/Sustainment tor Developme: _	ᆵ			.,	3,000	3,700				
	ı Support	,	1	1,418		1,302	1,304				
(U) System Engineering including Configuration Management	ring including	Configuration vertigation	Management	6,838		4,900	4,300 4,000				
	system mous n	nvesugauon		35,258		28,023	42,243				
(U) B. Budget Acquisition History and Planning Informati	uisition Histor	y and Planni	<u>ng Informatio</u>	on (\$ in Thousands)	(spu						
Performing Organizations:	ations:										
Contractor or Government Performing	Contract Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations Lockheed Martin * FPIF/AF Loral Fed Systems CPAF Loral Fed Systems CPAF/FFP	t Organizations FPIF/AF CPAF CPAF/FFP	59 Jun 89 Jun 90 Jul 95	139,900 119,253 100,000	140,900 119,253 100,000	110,738 94,945 n/a	21,643 5,359	2,306	359 32,280	45,046	110,738 119,253 100,000	
				P	Page 5 of 6 Pages	res			Exhibit R-3	R-3	

RD	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	GRAM E	LEMENT/	PROJEC	T COST	BREAKD	OWN (R-	3)	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	al System D	evelopme	nt		PE NUMB 03051	PE NUMBER AND TITLE 0305165F NAVS	TAR GPS	(Space/G	rd Segme	PE NUMBER AND TITLE 0305165F NAVSTAR GPS (Space/Grd Segments) (Space)
PROJECT NO. AND NAME 3030 NAVSTAR GPS (Space/Ground)	AAME GPS (Space/	Ground)								
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Support and Management Organizations System Various Va	gement Organiza Various	ations Various	n/a	n/a	a 1,361	6,838	7,100	4,300	Cont	Cont
Mission Support GPS NAVWAR	Various TBD	n/a TBD	n/a	n/a	a 2,598	1,418	1,302	1,304 4,000	Cont	Cont 4,000
Test and Evaluation Organizations Not Applicable.	n Organizations									
* Program total represents total program element liability. amount because project is firm fixed price and has overrun	presents total project is firm fixe	ogram elemen d price and ha	t liability. This is overrun.	s effort is als	o funded by oth	er program ele	ments; total g	overnment li	ability is \$135	* Program total represents total program element liability. This effort is also funded by other program elements; total government liability is \$135,906. EAC exceeds this amount because project is firm fixed price and has overrun.
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	evelopment nd Management Svaluation				205,683 3,959	27,002 8,256	19,621 8,402	32,639 9,604	45,046 Cont	329,991 Cont
Total Project					209,642	35,258	28,023	42,243	Cont	Cont
					Page 6 of 6 Pages	ıges			Exhibit R-3	R-3





		RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICAL	IS NOI	IEET (R	-2 Exhil	bit)		DATE	March 1996	9
BUDGE 7-0	BUDGET ACTIVITY 7 - Operations	вирсет астилту 7 - Operational System Development		PE NU 030	PE NUMBER AND TITLE 0305182F East	TTLE astern S	pace Lau	ınch Fac	PE NUMBER AND TITLE 0305182F Eastern Space Launch Facility (Space)	(eo	
PROJE 4137	PROJECT NO. AND NAME 4137 Range Standa	rdization and Automation (RSA)	Program								
	:	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
4137	Range Standa	Range Standardization and Automation (RSA) Program	38,492	48,279	35,704	36,410	38,466	39,682	40,930	Continuing	Continuing
(U) A C C C C C C C C C C C C C C C C C C	The Eastern a conduct civil, r&E. Range nstrumentation (RSA) will con neastern an operators, site han 4 hours reandard practed assearch Cata	A. Mission Description and Budget Item Justification The Eastern and Western Ranges provide tracking, telemetry, communications, command/control and other support capabilities necessary to safely and successfully conduct civil, commercial, and national security spacelift operations, ballistic missile test and evaluation (T&E), and a variety of aeronautical and guided weapons T&E. Range assets are based on 1950s/1960s designs and technology, and are arrayed in a highly inefficient, manpower intensive architecture. Range instrumentation reliability is deteriorating and over 40% of the components are obsolete with no sources of support. The ranges do not provide the responsiveness and flexibility critical to affordably support the nation's spacelift needs. Replacement of the aging systems is a necessity. Range Standardization and Automation (RSA) will completely overhaul and modernize both the Eastern Range (ER) and the Western Range (WR), treating the two as a single integrated range system with an Eastern and Western segment. RSA will develop the integrated range system, using remote control and automation techniques to reduce the number of required operators, sites and facilities, and to produce improved responsiveness. The result will be a range system reconfigurable from one major operation to another in less than 4 hours versus 2-3 days, capable of being operated for 20% less than current ranges, and supportable through existing Air Force logistics infrastructure and standard practices. RSA is critical to the future of the spacelift ranges; performance and cost goals cannot be achieved without RSA. Categorized as Budget Activity Research Category, Operations Systems Development because it upgrades existing operational capabilities with new systems.	ry, communi perations, ba technology, the compon icelift needs. stern Range egrated rang onsiveness. 20% less tha elift ranges; use it upgrad	listic missi and are arra and are arra ents are obs Replaceme (ER) and th ge system, u The result an an current ra performanc	nmand/control le test and e test and e lyed in a hig olete with nort of the ag he Western Faing remote will be a ran anges, and se and cost ge and cost ge	rol and other valuation (Thy inefficie o sources of ing systems tange (WR), control and tige system rupportable to oals cannot be capabilities.	E support cap (EE), and a virth manpowers support. The is a necessith is a necessith treating the automation econfigurably hrough exist be achieved with new sys	pabilities ne variety of ae er intensive ne ranges do y. Range Sty. Pange Storn one 1 efrom one 1 efrom one 1 ing Air For without RS/stems.	ressary to sar ronautical ar architecture. not provide andardizatio ngle integrat to reduce the najor operati ce logistics i	operations, command/control and other support capabilities necessary to safely and successfully operations, ballistic missile test and evaluation (T&E), and a variety of aeronautical and guided weapons d technology, and are arrayed in a highly inefficient, manpower intensive architecture. Range of the components are obsolete with no sources of support. The ranges do not provide the responsiveness pacelift needs. Replacement of the aging systems is a necessity. Range Standardization and Automation Eastern Range (ER) and the Western Range (WR), treating the two as a single integrated range system with integrated range system, using remote control and automation techniques to reduce the number of required sponsiveness. The result will be a range system reconfigurable from one major operation to another in less or 20% less than current ranges, and supportable through existing Air Force logistics infrastructure and acclift ranges; performance and cost goals cannot be achieved without RSA. Categorized as Budget Activity sause it upgrades existing operational capabilities with new systems.	essfully apons veness nation tem with equired r in less and t Activity
<u> </u>	(U) <u>FY 1995</u> (U) \$ 25,785	Continued RSA Phase I Contract: Development of consolidated instrumentation system including Consolidated Instrumentation Facility (CIF) and Unified Tracking Antenna (UTA) for Antigua and Ascension tracking sites; design, development, and acquisition of a satellite communications network to link downrange upgrades at Cape Canaveral Air Station (CCAS); design, development and acquisition of a satellite communications network to link downrange	ment of cons antigua and CAS); design	solidated ins Ascension the developm	strumentatio racking sites ent and acqu	n system inc;; design, denisition of a	sluding Consvelopment, a satellite con	solidated Ins and acquisiti umunication	trumentation of commiss network to	n Facility (Cl unications link downra	F) nge
<u> </u>	(U) \$8,734 (U) \$3.973 (U) \$38,492	stations at Antigua and Ascension with Kange Operations Control Center (KOCC) at CCAS, design, development and acquisition of a Central Telemetry Processing System applicable to both the Eastern and Western Ranges. Completed OT&E of ROCC, Initial operational capability declared March 95. Continued Engineering Services Contract to facilitate transition of the facility to operational users. Program support included System Program Office and Air Logistics Center support. Total	ige Operation both the East itional capabi	ns Control of tern and World with declared Air Logistics	Center (KOC) estern Rangg d March 95. s Center sup	c.C.) at C.C.A.S. So. Continued port.	s, design, de Engineering	velopment s	ind acquistic ontract to fac	on of a Central	tion
				Page I of 7 Pages	7 Pages				Exhibit R-2	۲-2	

		RDT&E BUDGET ITEM JUSTIFICATION	USTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
2	BUDGET ACTIVITY 7 - Operation	вирсет Астіvіту 7 - Operational System Development	PE NUMBER AND TITLE 0305182F Eastern Space Launch Facility (Space)	llity (Space)
PR(41	PROJECT NO. AND NAME 4137 Range Standa	PROJECT NO. AND NAME 4137 Range Standardization and Automation (RSA) Program		
	(U) <u>FY 1996</u> (U) \$31,779	Continue RSA Phase I Contract: Complete design, begin integration of CIF for Antigua; complete design, begin integration of CCAS	egration of CIF for Antigua; complete design, begin in	egration of CCAS
ŀ	(U) \$9,800	communications network; complete design, begin integration of Consolidated Telemetry Processing System (CTPS). Awarded RSA Phase IIA Contract in Nov 95: Initiate range architecture design, including instrumentation, weather, surveillance, Western Range Operations Control Center (WROCC) systems, centralized data processing, and optical systems for both ranges. Contract will continue	of Consolidated Telemetry Processing System (CTPS) architecture design, including instrumentation, weathe lized data processing, and optical systems for both rangements of the control of	r, surveillance, Western es. Contract will continue
ı	(U) \$2,800	through 2006. Continue ROCC Engineering Services Contract.		
1 1	(U) \$3,900 (U) \$48,279	Program support includes System Program Office, Air Logistics Center support, and Aerospace support. Total	ics Center support, and Aerospace support.	
ı	(U) <u>FY 1997</u> (U) \$11,004	Continue RSA Phase I Contract: Integrate and begin test of Consolidated Instrumentation Facility (CIF); integrate and begin test of	Consolidated Instrumentation Facility (CIF); integrate	nd begin test of
1	(U) \$20,500	communications network; integrate and begin test of CTPS. Continue RSA Phase IIA Contract: Complete range architecture design; develop weather, optical instrumentation, Control & Display basic	ure design; develop weather, optical instrumentation,	ontrol & Display basic
1 1	(U) \$4,200 (U) \$35,704	infrastructure, and begin integration and test of first delivery increment. Program support includes System Program Office, Air Logistics Center support, and Aerospace support. Total	increment. ics Center support, and Aerospace support.	
E	(II) Acquisition Strategy:	i ratany.		

(U) Acquisition Strategy:

Eastern Range program element to reflect the standard range being developed for both ranges. A parallel sustaining improvement and modernization activity for existing The RSA Phase I Contract now underway will provide Consolidated Instrumentation Facilities (CIF) at Antigua and Ascension, satellite communications from these sites prediction systems, debris tracking systems, planning and scheduling systems and data processing/display systems. An FY99 follow-on equipment contract will provide Operations Control Center, imaging systems, communications systems, mobile metric, telemetry and command assets, surveillance systems, weather data collection and the primary telemetry receiving, radar, and command systems. Funding for RSA design and integration for both Eastern and Western Ranges is consolidated in this to the Eastern Range Operations Control Center, a Central Telemetry Processing System for both ranges, and Cape Canaveral Air Station communications network upgrades. An FY96 RSA Phase IIA contract was awarded to provide design and integration of the complete range architecture, and also procure a Western Range range systems is separately funded with procurement funds.

Page 2 of 7 Pages





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET	R-2 Exhib	it)	DATE March 1996
ВUDGET АСТІVІТY 7 - Operational System Development	PE NUMBER AND TITLE 0305182F East	отп∟е Eastern Sp	D ТITLE Eastern Space Launch Facility (Space)	ility (Space)
PROJECT NO. AND NAME 4137 Range Standardization and Automation (RSA) Program				
(U) B. Program Change Summary (\$\frac{8}{2}\$ in Thousands)			Total	
(U) Appropriated Value 42,710	FY 1996* 52,272 52,272	FY 1997** 37,893	Continuing	
(U) Adjustments to Appropriated Value a. Congressional/General b. SBIR -891	-1,023 -1,225 -745			
ted	-1,000	-2,189	Continuing	
 (U) Change Summary Explanation:	ved for other DoI Inflation) reprogrammin	g needs (\$546)	
Schedule: RSA Phase IIA contract awarded Nov 95.				
Technical: None.				
	Page 3 of 7 Pages			Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Ex	chibit) DATE March 1996	966
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305182F Easter	אוזורב Eastern Space Launch Facility (Space)	
PROJECT NO. AND NAME 4137 Range Standardization and Automation (RSA) Program			
(U) C. Other Program Funding Summary (\$ in Thousands)			
(U) Other Procurement * RY 1995 FY 1996 FY 1997 (U) MILCON ** 1,750 Related RDT&E:	FY 1998 FY 1999 85,849 76,686 27,200	FY 2000 FY 2001 Complete Cost 59,646 59,147 Continuing Continuing	
* In addition to RSA, includes funds required for ongoing Eastern Range sustaining improvement and modernization (I&M) program. Western Range I&M is included in PE #35181F. ** PE #305182F MILCON funds are associated with non-RSA facilities. FY98 MILCON funds are in PE 35181F, for Western Range Operations Control Center (WR OCC) to house WR OCC RSA systems.	ige sustaining improvement	and modernization (I&M) program. Western Rans in PE 35181F, for Western Range Operations Cor	ge I&M is ntrol Center
(U) D. Schedule Profile FY 1995 1 2 3 4 (U) ROCC Operational Test & Evaluation X Completion	FY 1996 2 3 4	$\frac{\text{FY 1997}}{2}$ 4	
(U) RSA Phase I System Design Review X (U) ROCC Turnover (U) RSA Phase I Prelim Design Review X (U) Software Maintenance Facility Compl (U) RSA Phase IIA Contract Award (U) RSA Phase IIA Contract Award (U) RSA Phase IIA System Review (U) RSA Phase IIA System Design Review	, ××	×	
(U) RSA Phase I Developmental T&E (U) RSA Phase IIA Integration & Test First Delivery		××	
A Property of the Control of the Con	Page 4 of 7 Pages	Exhibit R-2	

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RDT&E BUDGET ITEN	A JUSTIFICATIO	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0305182F Eastern Space Launch Facility (Space)	ility (Space)
PROJECT NO. AND NAME 4137 Range Standardization and Automation (RSA) Program	(RSA) Program		
(U) Other Events Beyond BY+1	1st Qtr FY99		
(U) RSA Phase I Cape FO Network Inst'l (U) RSA Phase I SATCOM Installation	4th Qtr FY98 4th Qtr FY98		
(U) KSA Fnase I Ascension instantation (U) RSA Phase IIA Integration & Test	18t Qtr FY99		
(U) RSA Phase I WR CTPS Installation	2nd Qtr FY99		
(U) RSA Phase I Operational T&E	3rd Otr FY99 3rd Otr FY99		
(U) RSA Follow-on Equipment Contract	2nd Qtr FY99		
	Pa	Page 5 of 7 Pages	Exhibit R-2

2	RDT&E PROGRAM ELEMENT/PROJECT	GRAM E	LEMENT,	PROJEC	T COST	BREAK	COST BREAKDOWN (R-3)	R-3)	DATE March 1996
BUDGET ACTIVITY 7 - Operation	3UDGET ACTIVITY 7 - Operational System Development	evelopme	int		PE NUN 0305	PE NUMBER AND TITLE 0305182F East	LE stern Spac	se Launch	PE NUMBER AND TITLE 0305182F Eastern Space Launch Facility (Space)
PROJECT NO. AND NAME 4137 Range Standa	PROJECT NO. AND NAME 4137 Range Standardization and Automation (RSA) P	and Automa	tion (RSA) F	rogram					
(U) A. Project	(U) A. Project Cost Breakdown (\$000 in Thousands)	(\$000 in Tho	<u>usands)</u>	FY	FY 1995	FY 1996	FV 1997		
(I) RSA Dhase I Contract	Contract				705	21.7	10011	.ı -	
	IA Contract			:7	72,/82	31,7/9 9,800	11,004 20,500	.	
(U) ROCC Engineerin (U) Program Support (U) Other RSA	ROCC Engineering Services Program Support Other RSA	Ę		~ (1)	8,734 3,973	2,800 3,900	4,200		
	Duai OSC Launch Fachiny Orain Frogram Total	ın Frogram		38	38,492	48,279	35,704		
(U) B. <u>Budget Acquisition</u> Performing Organizations:	(U) B. <u>Budget Acquisition History and Planning Information (S in Thousands)</u> Performing Organizations:	ry and Plann	ing Informati	on (\$ in Thou	<u>sands)</u>				
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Total <u>Program</u>
Product Developn	Product Development Organizations	Si							
Harris Corp /Loral (RSA	CPAF	_ Jun 93	119,600	134,332	19,371	25,785	31,779	11,004	134,332
Loral Corp (RSA Phase IIA)	CPAF	Nov 95	161,305	161,305	0	0	6,800	20,500	161,305
Harris Corp. (ROCC Eng'r Services)	CPAF	Apr 94	24,270	24,345	12,811	8,734	2,800	0	24,345
Various (Other RSA)	Various	Various	N/A	N/A	2,913	0	0	0	2,913
					Page 6 of 7 Pages	Pages			Exhibit R-3
					1539				





RDT&E PROGRAM ELEMENT	OGRAME		ROJECT	COST BRE	PROJECT COST BREAKDOWN (R-3)	R-3)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	Developm	ent		PE NUMBER AND TITLE 0305182F East	D TITLE Eastern Spa	se Launch Fa	DITITE Eastern Space Launch Facility (Space)
PROJECT NO. AND NAME 4137 Range Standardization and Automation (RSA)	on and Autom	n (RSA) F	Program				
(U) B. Budget Acquisition History and Planning Information Continued (\$\sin Thousands)	istory and Plan	ning Information	n Continued (S	in Thousands)			
Various (Dual Use Grants Launch Grants)	Various	N/A	N/A	10,000	0 0	0 # ;	10,000
Support Management Mission Support	Varions	N.	∀	2 757 4	3 073 3 000	4 200	Cont
snormy modding morsenar	Vallous	IND	TAIL TAIL			00 7 ,F	Court.
Test and Evaluation Organizations TBD	1998	N/A	N/A	0	0 0	0	TBD
Government Furnished Property: RSA Phase IIA contract awarded Nov 95; process underway to identify GFE	erty: RSA Phas	e IIA contract aw	varded Nov 95;	process underway	to identify GFE		
Contractor or Government Performing Activity		Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	nent	45,095 Cont. N/A	34,519 3,973 N/A	44,379 3,900 N/A	31,504 4,200 N/A	Continuing Continuing TBD	Continuing Continuing TBD
Total Project		Cont.	38,492	48,279	35,704	Continuing	Continuing
			F	Page 7 of 7 Pages			Exhibit R-3

	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA:	FION SE	HEET (R	-2 Exhil	bit)		DATE N	March 1996	9
8UDGE 7-0	вирсет астіvіту 7 - Operational System Development		PE NL 030	PE NUMBER AND TITLE 0305906F NCM	TITLE	0305906F NCMC-TW/AA Systems	tems			
										:
	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
	Total Program Element (PE) Cost	127,446	63,554	31,692	7,623	5,291	4,498	4,600	Continuing	Continuing
3880 CMU	сми	81,190	46,947	21,375	809	122	0	0	0	1,311,250
3881	3881 Integrated TW/AA	13,756	8,861	5,562	5,375	4,115	4,498	4,600	Continuing	Continuing
4409	4409 Legacy Interfaces	32,500	7,746	4,755	1,640	1,054	0	0	0	47,695

(U) A. Mission Description and Budget Item Justification

American Aerospace Defense Command (NORAD)/CINC US Space Command in providing the National Command Authorities, USSTRATCOM and other forward Computers (C4) in support of the Integrated Tactical Warning/Attack Assessment (Integrated TW/AA) system. This program incrementally upgrades and replaces the current operational systems without loss of attack warning capability during the phased transition. The CMC supports the Commander-in-Chief (CINC) North This program element funds the replacement systems for the Cheyenne Mountain Complex (CMC) which provides the Command, Control, Communications and users with early warning (missile, air, and space) and assessment of attack on North America or its allies. This program element has three related projects: The first project, Cheyenne Mountain Upgrade (CMU), is six acquisitions that are supported by both the second and third project. The second project, Integrated TW/AA System Engineering, provides interface analysis and disconnect resolution between CMU and over twenty other Integrated TW/AA systems and program upgrades and supports the development of the Cheyenne Mountain Training System (CMTS). The third project, Legacy Interfaces, provides software development upgrades to post-IOC CMU subsystems and direct mission software support to meet operational needs.

This program element is research category/budget activity code 7 (Operational System Development) because it involves post-Milestone Three efforts, and the projects in this program element support development acquisition programs or upgrades.

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RDT&E BUDGET ITEM JUSTIFICATION	STIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0305906F NCMC-TW/AA Systems	

(U) Acquisition Strategy:

The CMU program was restructured in FY 1994 to implement an acquisition strategy that tests and delivers four phases of user capability. Phase 1 implemented the complete missile warning capability in Sep 1995. Phases 2/3/4 will test and implement CMU capabilities in annual blocks (with O&M version releases) and incorporate upgrades and changes to meet evolving user requirements.

(U) B. Program Change Summary (\$\sec{8}\$ in Thousands)

	,
<u>FY 1997</u> 27,895	3,797 31,692
FY 1996* 60,897 68,797 -2,717 -1,532	-994 63,554
FY 1995 100,520 133,020 -2,793 -2,748	-33
 (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong Reductions b. SBIR 	 c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY96 PB (U) Current Budget Submit/President's Budget

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RDT&E BUDGET ITEM JUSTIFICATION	STIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0305906F NCMC-TW/AA Systems	

(U) Change Summary Explanation:

Funding: FY 96 amount does not reflect the funding used for Below Threshold reprogrammings MSTI (PE 64441F - \$575). FY95 appropriated value is \$32,500 Since FY96 PB include -\$139 in FY97 due to an O&M Reduction and an FY 97 reduction of -\$964 for inflation rate adjustment as well as an increase (\$4,900 in appropriated value is \$7,900 greater than PB due to Congressional transfer of O&M funds to RDT&E for software development. Adjustments to Budget Years greater than PB request due to a Congressional transfer of \$41,500 in O&M funds to RDT&E, and a Congressional reduction of \$9,000 in RDT&E. FY 96 FY97) transferred from O&M for software development work being accomplished in the Space & Warning Systems Center (SWSC).

* The FY96 PB amount does not reflect funding reductions that are reserved for other DoD reprogramming (-\$719)

Schedule: Phase 1 (complete missile warning) was implemented in Sep 1995, two months ahead of schedule. Acquisition approach tests and implements Phase 2 (survivable communications) and accomplishes IOT&E by Aug 1996. Phases 3 and 4 (development of subsystem capability and software upgrades) are tied to annual O&M version releases.

Technical: No change.

(U) C. Other Program Funding Summary (\$\sums \text{in Thousands})

	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	Compl	Cost
(U) Other Procurement *	5,710	9,164	5,321	3,244	1,228	1,816	1,857	Cont	Cont
(U) Operations & Maintenance	42,600	103,000	97,400	94,600	85,700	84,800	87,100	Cont	Cont
* Includes spares for CMU and CINC Mobile Alternat	nate Headqua	arters (CMA	H).						

Total

To

Related RDT&E:

(U) #604441F, Space-Based Infrared System(U) #305910F, Spacetrack(U) #305911F, Defense Support Program

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RDT&E BUDGET ITEM JUSTIFICATION	TIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305906F NCMC-TW/AA Systems	
(U) CMU Phase 1 Operational Acceptance (U) Missile Warning IOT&E	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	
 (U) CMU Phase 2 Operational Acceptance (U) Air Warning Mission Operational Acceptance (U) CMU Phase 3 Operational Acceptance (U) Space Control Mission Operational Acceptance (Jun 98) (U) CMU Phase 4 Operational Acceptance (Aug 98) (U) CMU Integrated Mission IOT&E (Mar 99) 	× ×	
$Pa_{\mathbf{x}}$	Page 4 of 20 Pages	Exhibit R-2

	RDT&E BUDGET ITEM JUS	TIFICA	TION SE	HEET (R	TIFICATION SHEET (R-2 Exhibit)	z it)		DATE	March 1996	99
BUDGET ACTIVITY 7 - Operation	вирсет астіvіту 7 - Operational System Development		PE NL 030	PE NUMBER AND TITLE 0305906F NCM	PE NUMBER AND TITLE 0305906F NCMC-TW/AA Systems	//AA Sys	tems			
PROJECT NO. AND NAME 3880 CMU	NAME					:				
	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3880 CMU		81,190	46,947	21,375	809	122	0	0	0	1,311,250
(U) A. Mission J. The CMU pr. Integrated Ty. communicati processing sy. Center at Chr. missile warni with CMU In	The CMU program must meet Joint Chiefs of Staff (JCS) requirements to provide the National Command Authorities with timely, reliable, and unambiguous Integrated TW/AA data for force survival or retaliatory decisions in the face of air, space, or ballistic missile threats. The program will provide: 1) survivable communications access for missile attack warning; 2) integrated warning of ballistic missile, atmospheric, and space threats; 3) standard user displays and warning processing systems at selected command centers; 4) an austere alternate facility capable of early/trans-attack warning and peacetime backup to the Missile Warning Center at Cheyenne Mountain. The CMU program implements an acquisition strategy that tests and delivers four phases of user capability. Phase 1 implemented the missile warning capability in Sept 1995. Phases 2/3/4 will test and implement CMU capabilities in annual blocks completing all planned capabilities by Aug 1998, with CMU Integrated Mission IOT&E completed by Mar 1999.	equirements issions in the grated warn stere alterna ents an acq test and imp	to provide the face of air, ing of ballis te facility ca unsition strat	he National space, or ba tic missile, a pable of ear legy that test U capabilitie	Command A Ilistic missile atmospheric, ly/trans-attac is and delivee s in annual t	Authorities ver threats. Te and space the warning is four phase blocks company	vith timely, he program hreats; 3) sand peacetires of user calleting all pl	reliable, and will provide standard usei ne backup to pability. Ph	unambiguou : 1) surviva r displays an o the Missile ase 1 impler	us able da warning Warning nented the ig 1998,
(U) <u>FY 1995</u> - (U) \$1,329 - (U) \$11,616 - (U) \$11,616 - (U) \$11,616 - (U) \$11,616 - (U) \$11,616 - (U) \$16,480 - (U) \$16,480 - (U) \$16,480 - (U) \$16,480 - (U) \$16,480 - (U) \$16,480 - (U) \$16,480 - (U) \$16,912 - (U) \$2,024 - (U) \$2,024 - (U) \$2,024 - (U) \$16,912 - (U) \$16,912	Completed Phase 1 (scheduled for Nov 95) in Sep 95, to include: SCIS Mini-Net (5 Sep 95) SPADOC 4C version 2 achieved Operational Acceptance (OA) at Cheyenne Mountain using CSS on 19 Jul 95 Bual node missile warning at APCC (Sept 95) Initiate Phase 2, to include: SPADOC 4C version 2 with CSSR SCIS 14 (Sensor Summary Processing) Automatic Tracking and Monitoring System (ATAMS) Phase 1 for CSSR Initiate Phase 3, to include: Missile Warning Remoting Capability Granite Sentry (Air Warning) at Cheyenne Mountain misalignment with Project 3881, Integrated TW/AA, this PE Total according to Data Bse records (True program total = \$81,234)	in Sep 95, to inclused Acceptance (OA) 1) 1) 1) 1) 1) 1) 1) 1) 1)	n Sep 95, to include: al Acceptance (OA) at Che b) (ATAMS) Phase 1 for C9 Mountain TW/AA, this PE rrogram total = \$81,234)	Theyenne McCSSR	ountain using	g CSS on 19	Jul 95			

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	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	March 1996
вирсет АстіvітY 7 - Operationa	вирдет астіvіту 7 - Operational System Development	PE NUMBER AND TITLE 0305906F NCMC-TW/AA Systems	
PROJECT NO. AND NAME 3880 CMU	iME		
(U) \$15,739 (U) \$15,739 (U) \$2,167 (U) \$2,443 (U) \$10,756 (U) \$10,756 (U) \$14,712 (U) \$14,712 (U) \$1,130 (U) \$46,947 (U) \$46,947 (U) \$8,459 (U) \$8,459	Complete CMU Phase 2 (Aug 96) after Missile Warning IOT&E deliver Survivable Secure Communications Network Phase 2 (Aug 96) and SCIS (14)/Processing and Display System (May 96) ATAMS Phase 1 (Sep 96) Continue CMU Phase 3 to include: Missile Warning remote from APCC and SSCN Phase 3 Granite Sentry (Air Warning) at Cheyenne Mountain Initiate Phase 4 to include: \$\$1,130 realignment in work to project 3881 for ICD development Total according to Data Base (True program total = \$45,817) Complete Phase 3 (Aug 97) with operational acceptance of Granite Sentry, completion of SSCN Phase 3 and Missile Warning remote capability: Continue Phase 4, to include: CMU interoperability testing with CSSR	T&E deliver Survivable Secure Communications Netwith CSSR ment 17) Granite Sentry, completion of SSCN Phase 3 and Missil	work Phase 2 (Aug 96) and
(U) \$21,375 - (U) \$21,375	ment with CSSF	Page 6 of 20 Pages	Exhibit R-2

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit) DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305906F NCM	PE NUMBER AND TITLE 0305906F NCMC-TW/AA Systems	
PROJECT NO. AND NAME 3880 CMU			
(U) B. Program Change Summary (S in Thousands)			
(U) Previous President's Budget 86,808 (U) Appropriated Value 77,808	FY 1996 51,446 51,446	FY 1997 $22,135$	
(U) Adjustments to Appropriated Value a. Cong Reductions b. SRIR	-1,973		
t Realignment 'Misalignment	-1,130 1,130		
e. Below Threshold Reprogramming f. Omnibus or Other Above Threshold Reprogram (U) Adjustments to Budget Years Since FY96 PB (U) Current Budget Submit/President's Budget *81,190	-994 *46,947	-760 21,375	
 (U) Change Summary Explanation: *Funding: FY95 appropriated value is \$9,000 less than President's Budget request due to a Congressional reduction for Air Warning processor at APCC. Project Realignment reflects a transfer of \$9,000 from project 4409 to project 3880 and misalignment with 3881 of (\$44) in FY95, and \$1,130 from 3880 to 3881 in FY96 for Congressionally directed Interface Control System development. Adjustments to Budget Years Since FY96 PB include a decrease (-\$110) due to an O&M Reduction and (-\$650) due to non-pay inflation in FY97. 	get request due to 880 and misalignn djustments to Bud	President's Budget request due to a Congressional reduction for Air Warning processor at APCC. Project 1409 to project 3880 and misalignment with 3881 of (\$44) in FY95, and \$1,130 from 3880 to 3881 in FY96 levelopment. Adjustments to Budget Years Since FY96 PB include a decrease (-\$110) due to an O&M 7.	processor at APCC. Project from 3880 to 3881 in FY96 (-\$110) due to an O&M
Schedule: Phase I completed (missile warning) Sep 1995. Acquisition approach tests and implements Phases 2, 3 and 4 (development of subsystem capability and software upgrades) are tied to annual O&M version releases.	approach tests an	l implements Phases 2, 3 and 4 (developmen	t of subsystem capability
Technical: Includes Missile Warning remote from APCC and development of ATAMS.	nent of ATAMS.		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION SH	EET (R-2	Exhibit)		DATE	March 1996	
вирсет Астіvіту 7 - Operational System Development	PE NUI 030	PE NUMBER AND TITLE 0305906F NCM	0305906F NCMC-TW/AA Systems	ystems			
PROJECT NO. AND NAME 3880 CMU							
(U) C. Other Program Funding Summary (\$ in Thousands)					E		
(U) Other Procurement * 5,710 9,164 (U) Operations & Maintenance 42,600 103,000 * Includes spares for CMU and CINC Mobile Alternate Headquarters (CMAH)	7 1996 FY 1997 9,164 5,321 3,000 97,400 rs (CMAH).	FY 1998 E 3,244 94,600	FY 1999 FY 2000 1,228 1,816 85,700 84,800		10 <u>72001</u> <u>Compl</u> 1,857	Cont	
(U) D. Schedule Profile	FY1995	4	FY1996 2 3	4	FY1997 2 3	4	
 (U) CMU Phase 1 Operational Acceptance (U) Missile Warning IOT&E (U) CMU Phase 2 Operational Acceptance (U) Air Warning Mission Operational Acceptance (U) CMU Phase 3 Operational Acceptance (U) Space Control Mission Operational Acceptance (U) CMU Phase 4 Operational Acceptance (Aug 98) (U) CMU Integrated Mission IOT&E (Mar 99) 				× ×	*	×	
	Page 8 of 20 Pages	0 Pages			Exhibit R-2	R-2	

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ROJECT C	OST BREAK	DOWN (R-3)	DATE March 1996
вироет астіміту 7 - Operational System Development		PE NUMBER AND TITLE 0305906F NCM	PE NUMBER AND TITLE 0305906F NCMC-TW/AA Systems	
PROJECT NO. AND NAME 3880 CMU				
(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u>	FY 1995	FY 1996	<u>FY 1997</u>	
(U) Major Contract Incremental Funding (U) Award/Performance Fee (U) Target To Ceiling/Overnn	38,987 3,284 0	11,264 2,242 1 296	1,732 409 345	
(U) ECPs/Correction of Deficiencies/Incomp (U) Interoperability/Test Support	6,955 6,832	3,592 6,441	3,004 5,480	
(U) Tre-Operational Supportes wise, infamentance (U) Type I Training/TDY (U) SSCN/SCIS Fallback/Secure Voice Tell Network (U) Tech Manuals	665 1,231 38	$\begin{array}{c} 0 \\ 100 \\ 1,221 \\ 10 \end{array}$	m	
(U) Missile Warning Remote Display (U) SPO Support	1,874	304	200	
(U) MITRE (U) TEMS/SDAS/WSI/SAIC/NSR	10,951 7,122	9,091 7,040	5,255 3,368	
(U) Program Support (U) Other Support	3,056 239	2,941 275	1,579 0	
(U) Adjustment for BPAC misalignment(U) Data Base Total for CMU Project (See R-2 for actuals)	-44 81,190	1,130 46,947	21,375	
	Page	Page 9 of 20 Pages		Exhibit R-3



RD	RDT&E PROGRAM ELEMENT	RAM EL		PROJECT	COST BREAKDOWN (R-3)	REAKDO	WN (R-		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	System De	velopme	 		PE NUMBER AND TITLE 0305906F NCM	AND TITLE SF NCMC	PENUMBER AND TITLE 0305906F NCMC-TW/AA Systems	ystems			
PROJECT NO. AND NAME 3880 CMU	AME										
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	quisition Histor	y and Planni	ng Informatio	n (\$ in Thousa	(spu	<u>.</u>					
refiorming Organizations.	iizations.										
Contractor or Government Performing Activity	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations Loral Aerospace C/CPIF/AF	ent Organizations C/CPIF/AF	oct 91	69,300	69,300	258,081	9,525	4,054	3,920	353	275,933	
CO Springs CO E-Systems		Aug 86	107,000	106,500	88,642	11,934	7,529	0	0	108,105	· :=
St Petersburg FL TRW, Inc	C/FPI/AF	Jun 87	168,022	167,850	201,203	10,337	2,163	0	0	213,703	
Carson CA GTE	C/CPIF/AF	Jan 92	16,500	16,500	224,754	11,908	5,759	3,277	0	245,698	
Needham Hgts MA											
Martin-Marietta	SS/CPIF/AF	Mar 93	38,400	40,200	101,248	12,354	5,330	3,773	0	122,705	***************************************
CO Springs CA DISA (Govt)	РО	Oct 93	9,871	9,871	7,419	1,231	1,221	0	0	9,871	
KAMAN Sciences CO Springs, CO	AF616/C	Aug 95	2,378	2,378	0	1,874	304	200	0	2,378	
Support and Management Organizations	gement Organiza	tions	;	;	000			1 1	ţ		
MITRE	SS/PR C/PR	Oct 95 Oct 95	V Ϋ́	X X A X	142,990 55,189	10,931 7,122	9,091 7,040	3,368	1/7 84	168,464 72,803	
Program Support	Various	Nov 95	N/A	N/A	82,568	3,998	3,326	1,582	116	91,590	
				Pe	Page 10 of 20 Pages	iges			Exhibit R-3	R-3	

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	T COST B	REAKD(OWN (R-	3)	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305906F NCM	SF NCMC	PE NUMBER AND TITLE 0305906F NCMC-TW/AA Systems	Systems	-		
PROJECT NO. AND NAME 3880 CMU				<u>.</u>			
Contractor or Contract Government Method/Type Award or Performing Project Performing or Funding Obligation Activity Office Activity Vehicle Date EAC EAC	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Test and Evaluation Organizations N/A							
(U) B. Budget Acquisition History and Planning Information Continued (\$\\$\) in Thousands)	(\$ in Thousand	କ					
Government Furnished Property: Not Applicable.							
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	881,347 280,747	59,163 22,071	26,360 19,457	11,170	353 377	978,393 332,857	
Adjustment for BPAC misalignment Total Project (See R-2 for actuals)	1,162,094	-44 81,190	1,130 46,947	21,375	730	*1,311,250	
*Total is actual program total NOT summation of this row which reflects Data Base records	Base records						<u></u>
	Page 11 of 20 Pages	səb			Exhibit R-3	R-3	
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	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	IS NO!	HEET (R	-2 Exhil	oit)		DATE N	March 1996	
BUDGET ACTIVITY 7 - Operationa	вирдет астіvіту 7 - Operational System Development		PE NU 030	PE NUMBER AND TITLE 0305906F NCM	ITLE ICMC-TW	D TITLE NCMC-TW/AA Systems	tems			
PROJECT NO. AND NAME 3881 Integrated TW/AA	AME TW/AA								:	
	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3881 Integrated TW/AA	IAA	13,756	8,861	5,562	5,375	4,115	4,498	4,600	Continuing	Continuing
(U) A. Mission Do	A. Mission Description and Budget Item Justification									
This project w through rigord provides for th Integrated TW Infrared Systen	This project was set up in 1989 when Air Force recognized the phased transition of CMU program into the Integrated TW/AA network could only be achieved through rigorous system-of-systems design and engineering analysis of all interfaces and relationships among the twenty-six systems of the network. This project provides for the efficient integration of CMU through interface analysis, schedule management and disconnect resolution between CMU and over twenty other Integrated TW/AA systems and program upgrades as required to support the Integrated TW/AA network's continually evolving system-of-systems (e.g., Space-Based Infrared System) and changes driven by new missions/threats.	If the phased of analysis of rface analysis ired to supposite.	ransition of all interface schedule r t the Integi	f CMU progres and relatic nanagement rated TW/A/	am into the onships amo and discom A network's	Integrated T ng the twent tect resolutic continually	W/AA netwy-six system yn between C	ork could or s of the netv MU and ov em-of-syster	nly be achiev vork. This pier twenty oth ms (e.g., Spa	ed oject er ce-Based
(U) \$4,517 (U) \$3,111	Systems Engineering Integration and Test (SEIT): Provide operation integration of CMU Phase 1 installation, check-out, test and assessment, maintain program schedule; identify, track and resolve CMU disconnects Technical Performance Evaluation (TPE): Maintain CMU technical baseline; evaluate CMU performance and track to prescribed requirements;	(SEIT): Prov k and resolve Maintain Cl	ide operati CMU disco ÆU technica	on integratio nnects al baseline;	n of CMU Fevaluate CM	hase 1 insta IU performa	llation, chec nce and trac	k-out, test ar k to prescrib	nd assessmen ed requireme	t; .nts;
(U) \$5,457 (U) \$627 (U) \$44 (U) \$13,756	provide system engineering for CMTS): Continue to support CMTS program currently funded by multiple PEs Interface Control System development misalignment with Project 3881, Integrated TW/AA, this PE Total according to data base records (Actual Program Total = \$13,712)	ITS): Continue to support CM ed TW/AA, this PE al Program Total = \$13,712)	ue to suppo us PE Fotal = \$13	rt CMTS pro 1,712)	gram curre	ntly funded b	y multiple F	Ę		
(U) \$4,796	SEIT: Provide operation integration of CMU Phase 2 installation, check-out, test and assessment; maintain program schedule; identify, track and resolve CMU disconnects	AU Phase 2 in	ıstallation,	check-out, te	sst and asses	sment; maii	ntain progra	m schedule;	identify, tra	×
(U) \$1,922	al baseline;	evaluate CMU performance and track to prescribed requirements; provide system engineering for	J performai	nce and track	ς to prescrib	ed requireme	ents; provid	e system eng	gineering for	
(U) \$2,143 (U) \$1,130 (U) \$-1,130 (U) \$8.8611	nue to support CMTS progrand System Development work to project 3881 for IC gto data base records (Actu	am 'D development al Program Total = \$9,991)	nt Fotal = \$9,	991)						
	,)	Page 12 of 20 Pages	20 Pages				Exhibit R-2	-2	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FICATION 8	SHEET (F	R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE 0.	PE NUMBER AND TITLE 0305906F NCM	TITLE NCMC-TW/AA Systems	
PROJECT NO. AND NAME 3881 Integrated TW/AA				
(U) \$4,430 SEIT: Provide operation integration of CMU Phase 3 installation, check-out, test and assessment; maintain program schedule; identify, track and resolve CMU disconnects (U) \$1,132 TPE: Maintain CMU technical baseline; evaluate performance and track to prescribed requirements; provide system engineering for Phase 3 (U) \$5,562 Total	Phase 3 installation tate performance a	n, check-out, to	est and assessment, maintain progr	am schedule; identify, track em engineering for Phase 3
(U) B. Program Change Summary (\$ in Thousands)				
(U) Previous President's Budget (U) Appropriated Value (I) Adiustments to Appropriated Value	FY 1995 13,712 13,712	FY 1996 9,451 9,451	FY 1997 5,760	
a. Cong Reductions b. Project realignment c. BPAC misalignment	44	-590 +1,130 -1,130		
	13,756	8,861	- 198 5,562	
(U) Change Summary Explanation: Funding: Adjustments include FY95 BPAC misalignment (\$44), a realignment (ZBT) of \$1,130 in FY96 from Project 3880 (CMU) to 3881 (ITW/AA) for Congressionally directed Interface Control System development and decreases (\$29) due to O&M Reduction and \$169 for non-pay inflation in FY97. Schedule: No change. Technical: No change.	(\$44), a realignmer ment and decreases	nt (ZBT) of \$1 s (\$29) due to	.,130 in FY96 from Project 3880 (C O&M Reduction and \$169 for non-	MU) to 3881 (ITW/AA) for pay inflation in FY97.

(U) C. Other Program Funding Summary (\$\mathbb{S}\$ in Thousands) (U) Not Applicable.

(U) **D. Schedule Profile**(U) Not Applicable. This is a sustaining engineering effort that supports project 3880 with no distinct milestones.

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RDT&E PROGRAM ELEMENT	OGRAM EL	EMENT/	PROJE	/PROJECT COST BREAKDOWN (R-3)	3REAKD	OWN (R-	3)	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	Developme	 		PE NUMBI 03059(PE NUMBER AND TITLE 0305906F NCMC-TW/AA Systems	-TW/AA S	ystems			
PROJECT NO. AND NAME 3881 Integrated TW/AA								1 :		
(U) A. Project Cost Breakdown (\$ in Thousands)	vn (\$ in Thousar	<u>(spi</u>	F	FY 1995	FY 1996	FY 1997				
(U) Major Contract Incremental Funding (U) Award/Performance Fee (U) CMTS Systems Integration (U) Interface Control System Development	Funding evelopment			100 227 4,197 627	0 258 1,885 1,130	0 0				
(U) SPO Support (U) MITRE (U) TEMS/WSI (U) Program Support (U) Adjustment for BPAC misalignments (U) Total ITW/AA Project	ignments			4,659 3,714 188 44 13,756	4,403 2,302 13 -1,130 8,861	2,672 2,638 252 5,562				
(U) B. Budget Acquisition History and Planning Information (S in Thousands) Performing Organizations: Contractor or Contract Government Method/Type Award or Performing Project Performing or Funding Obligation Activity Office F Activity Vehicle Date EAC EAC F	istory and Plann pe Award or Cobligation Date	ing Informatio Performing Activity EAC	on (S in The Project Office EAC	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations DISA MIPR LORAL C/CPIF/AF Aerospace CO Springs, CO	tions Arp 96 7 Jun 95*	1,130	1,130		4,257	1,130 2,143			1,130	
Support and Management Organizations MITRE SS/PR Oct	mizations Oct 95	N/A	N/A	34,654 Page 14 of 20 Pages	4,659 Pages	4,403	2,672	Cont Exhibit R-3	46,388 R-3	
				1564						

RD	RDT&E PROGRAM ELEMENT/	SRAM EI	-EMENT/	PROJECT		ZEAKD(COST BREAKDOWN (R-3)	3)	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	I System Do	evelopme	nt .		PE NUMBER AND TITLE 0305906F NCM	AND TITLE	PE NUMBER AND TITLE 0305906F NCMC-TW/AA Systems	systems		
PROJECT NO. AND NAME 3881 Integrated TW/AA	AME TW/AA									
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Product Development Organizations	nt Organization	ΩI								
DISA LORAL Aerognace	MIPR C/CPIF/AF	Arp 96 Jun 95*	1,130 6,444	1,130 6,444		4,257	1,130 2,143			1,130 6,400
CO Springs, CO TEMS Program Support Prime Contractors	C/PR N/A (Various)	Oct 95 Nov 95	N/A N/A	N/A N/A	20,374 6,537 545	4,341 188 267	2,302 13 0	2,638 252 0	Cont Cont TBD	Cont Cont TBD
Test and Evaluation Organizations N/A	1 Organizations									
(U) B. Budget Acquisition History and Planning Information Continued (\$\sqrt{s}\$ in Thousands)	quisition Histor	y and Planni	ing Informatio	on Continued (S	in Thousands	(1				
Government Furnished Property: Not Applicable.	ished Property:									
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	evelopment id Management evaluation				62,110	4,257 9,455	3,273 6,718	5,562		7,530 Cont
Adjustments for BPAC misalignment Total Project	AC misalignmen	‡ 1			62,110	44 13,756	-1,130 8,861	5,562		Cont
				Pa	Page 15 of 20 Pages	səz			Exhibit R-3	R-3





	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICAT	ION SE	IEET (R	-2 Exhit	oit)		DATE N	March 1996	9
BUDGET ACTIVITY 7 - Operational	BUDGET ACTIVITY 7 - Operational System Development		PE NU 030	PE NUMBER AND TITLE 0305906F NCM	PE NUMBER AND TITLE 0305906F NCMC-TW/AA Systems	//AA Syst	ems			
PROJECT NO. AND NAME 4409 Legacy Interfaces	λΜΕ erfaces									
	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
4409 Legacy Interfaces	se	32,500	7,746	4,755	1,640	1,054	0	0	0	47,695
(U) A. Mission De	(U) A. Mission Description and Budget Item Justification			!						
The FY95 App program eleme program. To c the CMU program.	The FY95 Appropriations Conference Committee transferred \$41.5M from the O&M Critical Space Contract Operations Line to the RDT&E R-1 line in this program element. Congress realigned these funds from O&M to RDT&E to identify the costs associated with CMU software development upgrades to the CMU program. To clearly account for this funding, this project, Legacy Interfaces, was established. This project provides funding for software development upgrades to the CMU program and for direct mission software support to meet operational needs.	red \$41.5M fi &M to RDT& Legacy Inter to meet opers	com the O& E to identilifaces, was e	th Critical from the costs stablished.	Space Contra associated wi This project	act Operation ith CMU sof provides fur	ns Line to th tware develonding for so	ie RDT&E R opment upgr ftware devel	t-1 line in thi ades to the C opment upgr	s MU ades to
(U) \$7,271 (U) \$1,880 (U) \$12,453 (U) \$8,139 (U) \$2,757 (U) \$32,500	Provide SPADOC software maintenance support Provide SCIS software maintenance support Provide Cheyenne Mountain Air Station (CMAS) software support Provide warning systems software support/upgrades Provide CMAS software upgrades Total	ıpport rt JMAS) softw: 'upgrades	are support							
(U) \$1,582 (U) \$3,176 (U) \$3,176 (U) \$2,988 (U) \$7,746	Provide SPADOC software support/upgrades Provide Cheyenne Mountain software support/upgrades Provide Warning Systems software support/upgrades Total	les oort/upgrades t/upgrades								
(U) \$2,759 (U) \$1,996 (U) \$ 4,755	Provide warning system software upgrades for space, communications, and missile warning systems at Cheyenne Mountain Provide Cheyenne Mountain complex test support to include scenario development and development network software engineering Total	s for space, cc support to inc	ommunicati clude scena	ons, and mis rio developn	ssile warning nent and dev	g systems at (Cheyenne N twork softw	1ountain are engineer	ing	
			Page 16 of 20 Pages	° 20 Pages				Exhibit R-2	2-2	

RDT&E BUDGET ITEM JUSTIFICATIO	STIFICATION SHEET (R-2 Exhibit)	R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305906F NCM	0305906F NCMC-TW/AA Systems	
PROJECT NO. AND NAME 4409 Legacy Interfaces			
(U) B. Program Change Summary (\$ in Thousands)			
E Budget	FY 1996 0	$\frac{\text{FY 1997}}{0}$	
(U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong Reductions	7,900		
c. Project Realignment - 9,000			
(U) Adjustment to budget years since FY96 PB (U) Project Total 32,500	7,746	4,755 4,755	
 (U) Change Summary Explanation: Funding: FY95 funding was provided by Congressional transfer. Project Realignment reflects a transfer of \$9,000 to project 3880. Funding increase in FY96 (+7,900) was Congressional transfer from O&M for software development. Funding increases in FY97 (+\$4,900), FY98 (+\$1,700), and FY99 (+\$1,100) is in response to FY95 and FY96 Congressional transfer from O&M for software development work being accomplished in the SWSC. Funding decreases in FY97 (-\$145), FY 98 (-\$60) and FY 99 (-\$46) due to non-pay inflation. 	ct Realignment refl ent. Funding incres ware development v	ects a transfer of \$9,000 to project 38 ises in FY97 (+\$4,900), FY98 (+\$1,7) ork being accomplished in the SWS)	180. Funding increase in FY96190.), and FY99 (+\$1,100) is in190. Funding decreases in FY97
Schedule: No change.			
Technical: No change.			
(U) C. Other Program Funding Summary (\$ in Thousands) (U) Not Applicable.			

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RDT&E BUDGI	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
NUDGET ACTIVITY 7 - Operational System Development	oment PE NUMBER AND TITLE 0305906F NCMC-TW/AA Systems	
ROJECT NO. AND NAME 4409 Legacy Interfaces		
(U) D. Schedule Profile (U) SPADOC software support (U) SCIS software support (U) CMAS software support (U) Warning systems software support/upgrades (U) CMC Test Support (U) CMAS software upgrades	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	4 x X
	Page 18 of 20 Pages	Exhibit R-2

RD	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	SRAM EL	-EMENT/	PROJEC	T COST B	REAKD(OWN (R-	3)	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	al System Do	evelopme	ŧ		PE NUMBER 030590	PE NUMBER AND TITLE 0305906F NCMC	PE NUMBER AND TITLE 0305906F NCMC-TW/AA Systems	ystems			
PROJECT NO. AND NAME 4409 Legacy Interfaces	AME erfaces										
(U) A. Project Cost Breakdown (S in Thousands)	st Breakdown (\$ in Thousan	(spi								
				FY	FY 1995 FY	FY 1996	FY 1997				
(U) Major Contract Incremental Funding (U) Award/Performance Fee	t Incremental Fu nance Fee	ınding		29	29,548 2,952	7,096 650	4,280 475				
(U) Total Legacy Interfaces Project	nterfaces Project			32	32,500	7,746	4,755				
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	quisition Histor	ry and Plann	in <u>g Informati</u> c	n (\$ in Thou	sands)						
Performing Organizations: Contractor or	iizations: Contract										
Government Performing	Method/Type or Funding	Award or Obligation	Performing Activity	Project Office	Total Prior to	Budget	Budget	Budget	Budget to	Total	
Activity	Vehicle	Date	EAC	EAC	FY 1995	FY 1995	FY 1996	FY 1997	Complete	Program	
Product Development Organizations	ent Organization					ļ					
Loral Aerospace CO Springs CO	C/AF	Oct 94	8,853	8,853	0	7,271	1,582			8,853	
E-Systems	C/AF	Oct 94	1,880	1,880	0	1,880				1,880	
Kaman Sciences	C/AF	Oct 94	15,629	15,629	0	12,453	3,176			15,629	
Kaman Sciences	C/AF	Oct 94	12,437	12,437	0	8,139	2,988	1,310		12,437	
Navy/NISE TBD	MIPR C/AF	Sep 95 Oct 96	2,757 N/A	2,757 6,139	0	2,757		3,445	2,694	2,757 6,139	
Support and Management Organizations	gement Organiza	tions									
					Page 19 of 20 Pages	iges			Exhibit R-3	R-3	





RDT	RDT&E PROGRAM ELEMENT	RAM EL		PROJECT COST BREAKDOWN (R-3)	COST B	REAKDO	JWN (R-	3)	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	System De	velopme	1t		PE NUMBER AND TITLE 0305906F NCM	SE NCMC	PE NUMBER AND TITLE 0305906F NCMC-TW/AA Systems	ystems			
PROJECT NO. AND NAME 4409 Legacy Interfaces	^{ME} rfaces										
Contractor or Government Merforming o	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Test and Evaluation Organizations N/A	Organizations										
(U) B. Budget Acquisition History and Planning Information Continued (S in Thousands)	uisition Histor	y and Planni	<u>ng Informatic</u>	on Continued (\$	in Thousand	ପ					
Government Furnished Property: Not Applicable.	hed Property:										
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	elopment Management aluation					32,500	7,746	4,755	2,694	47,695	
Total Project						32,500	7,746	4,755	2,694	47,695	
				Pa_{3}	Page 20 of 20 Pages	səği			Exhibit R-3	R-3	

RDT&E BUDGET ITEM JUSTIFICATION	JSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0305910F Spacetrack (Space)	

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	40,724	54,705	18,867	0	0	0	0	0	Continuing
2295 Space Surveil Net Improvement Pgm (SSNIP)*	8,680	606'2	0	0	0	0	0	0	Continuing
4239 Air Force Maui Optical Station*	5,454	6,132	0	0	0	0	0	0	Continuing
4241 Advanced Electro Optical System	17,500	16,886	13,427	0	0	0	0	ТВD	TBD
4279 Have Stare Radar**	060'6	23,778	5,440	0	0	0	0	TBD	TBD

- Note: These sustainment efforts were not terminated but will continue in the Operations & Maintenance (O&M 3400 Appropriation) from FY97 and on * *
- Note: The rephasing and additional funding in FY 97/99 needed to complete this project remain to be determined subsequent to pending overseas siting decision.

(U) A. Mission Description and Budget Item Justification

populations, as well as the increasing diversity in launch trajectories, non-standard orbits, and geosynchronous altitudes, necessitates continued modernization of the SSN to meet existing and future requirements and ensure their cost-effective supportability. SPACETRACK also developed the systems interfaces necessary for the the HAVE STARE Radar System development were transferred to SPACETRACK from an intelligence program per Congressional direction in FY93. All of these radio frequency (RF) and radar sensors. The SSN is tasked to provide space object cataloging and identification, satellite attack warning, timely notification to U.S. Supercomputing facility for the Air Force Maui Optical Station (AMOS), were transferred to PE 62601F in FY92. The resources and responsibility for completing The SPACETRACK program element represents a worldwide space surveillance network (SSN) of dedicated, collateral, and contributing electro-optical, passive command and control, targeting, and damage assessment of a potential future U.S. Anti-satellite (ASAT) system. The Image Information Processing Center and projects are Budget Activity/Research Category Operational Systems Development because they involve development of or modifications to operational sensor forces of satellite fly-over, space treaty monitoring, and scientific and technical intelligence gathering. The continued increase in satellite and orbital debris network sites.

Acquisition Strategy: 3

Except for the Congressionally-directed Maui Space Surveillance Site facilities expansion project, AEOS, and the HAVE STARE radar acquisition, the other projects in this Program Element are sustaining engineering infrastructure support operations and maintenance efforts.

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RDT&E BUDGET ITEM JUSTIFICATIO	STIFICATION SHEET (R-2 Exhibit)	2 Exhib	t)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305910F Space	D TITLE Spacetrack (Space)	(Space)	
(U) B. Program Change Summary (\$ in Thousands)			Total	
(U) Previous President's Budget 49,874 (U) Appropriated Value 54,896	FY 1996* 35,583 58,383	FY 1997 12,139	Continuing	
ropriated Value tions r Above Threshold Reprogram l Reprogramming TR not accounted for get Years Since FY96 PB mit/President's Budget	- 1,525 - 1,305 - 848 54,705	6,728	Continuing	
(U) Change Summary Explanation: Funding: FY95 Appropriated Value reflects a Congressional addition of \$17,500 for AEOS project and \$3,000 for HAVE STARE project. FY95 BTR reflects a reprogramming of funds to PE 0207247F, PE 0301315F and PE 0305164F. Adjustments to Budget Years Since FY95 PB reflects funding transfer of level-of-effort engineering sustainment support to Operations & Maintenance account, reduction to Command, Control and Communications (C3) programs and reductions for inflation. Projects 2295 and 4239 have evolved into sustainment efforts and so have been transferred to the Operations & Maintenance (O&M 3400 Appropriation) from FY 97 and on. Rephasing and additional funding needed to complete the HAVE STARE project is yet to be determined subsequent to the pending overseas siting decision. Air Force budget increase for AEOS project continuation was the largest change in FY 97. * The FY96 PB amount does not reflect funding reductions that are reserved for other DoD reprogramming needs (\$610)	\$17,500 for AEOS 4F. Adjustments to count, reduction to Cinment efforts and s teeded to complete t roject continuation ad for other DoD reg	project and \$ Budget Year Command, Co o have been t he HAVE ST was the large	3,000 for HAVE STA s Since FY95 PB refl. nutrol and Communic ransferred to the Oper ARE project is yet to st change in FY 97. needs (\$610)	ARE project. FY95 BTR reflects a ects funding transfer of level-ofations (C3) programs and rations & Maintenance (O&M 3400 be determined subsequent to the
Schedule: HAVE STARE IOC is delayed to FY98/99 due to delay in overseas site selection. Technical: None.	erseas site selection.			

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TEM JUST	FICAT	HS NOI	EET (R	-2 Exhil	oit)		DATE	March 1006	
BUDGET ACTIVITY 7 - Operational System Development	4		PE NUI 030	PE NUMBER AND TITLE 0305910F Spac	псе pacetrac	УТІТЕ Spacetrack (Space)			0661 131	
(U) C. Other Program Funding Summary (\$ in Thousands)	Thousands)									
(U) Other Procurement		FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	To <u>Compl</u>	Total <u>Cost</u>	
Space Mods with Initial Spares	16,501	18,953	14,983	4,267	9,019	6,855	5,150	Cont	Cont	
Related RDT&E: (U) Program Element #0305906F, NORAD Cheyenne Mountain		omplex Ta	ıctical Warı	ning/Attack	Assessment	Complex Tactical Warning/Attack Assessment System of Systems.	ystems.			
(U) D. Schedule Profile										
_	FY 1995	4	EY.	FY 1996	-	$\frac{\text{FY } 1997}{3}$				· · ·
(U) GEODSS Telescopes O&M Mods (U) Implementation & sustainment		-	•)	- ×	٧	J 4			
(U) Administrative Contract Close-Out (II) AFOS telescone/facility	×									
(U) Factory acceptance/occupancy (U) HAVE STARE radar		×			×					
(U) Overseas site selection decision			×							
		I	Page 3 of 16 Pages	Pages				Exhibit R-2		
			1563							
		5	UNCI ASSIFIED	FIED						



		RDT&E BUDGET ITEM JUS	TIFICATION SHEET (R-2 Exhibit)	ION SE	HEET (R	-2 Exhi	bit)		DATE N	March 1996	9
BUDK 7.	BUDGET ACTIVITY 7 - Operationa	вирдет астіміту 7 - Operational System Development		PE NL 030	PE NUMBER AND TITLE 0305910F Spac	пть pacetrac	ve number AND TITLE 0305910F Spacetrack (Space)	(6			
PRO. 229	PROJECT NO. AND NAME 2295 Space Surveil	PROJECT NO. AND NAME 2295 Space Surveil Net Improvement Pgm (SSNIP)*									
		COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
2295		Space Surveil Net Improvement Pgm (SSNIP)*	8,680	2,909	0	0	0	0	0	0	Continuing
(E)	,	A. Mission Description and Budget Item Justification Space Surveillance includes space object cataloging and identification and supports the Space Defense missions of weapons support, attack warning for U.S. satellites, maintenance of space order of battle, cover-up alerts, and identification/assessment of space objects. The Space Surveillance Network Improvement Program (SSNIP) provides the sustaining engineering to correct identified deficiencies in support of those mission requirements. SSNIP also implements modifications required to reduce supportability/maintainability O&M costs. SSNIP efforts currently include reducing uncorrelated target (UCT) errors, orbital debris measurement and research, communications/data link optimization, system architecture analyses and changes to the Ground-based Electro-Optical Deep space Surveillance System (GEODSS). This activity will continue as part of normalized sustaining engineering support services in the 3400 O&M appropriation account from FY 97 and on. This project is an Operational Systems Development Budget Activity because it involves a level-of-effort for sustained engineering support for development of, or modifications to, an operational SPACETRACK network site.	antification a dentification a friciencies in efforts currer rchitecture a red sustainin et Activity bite.	nd supports /assessment support of t ttly include nalyses and g engineerii g engineerii	the Space I of space ob hose missio reducing un changes to g support s olves a leve	Defense miss jects. The S in requireme correlated to the Groundervices in the ervices in the defort fo	ions of weap pace Surveil nts. SSNIP i urget (UCT) based Electr e 3400 O&N r sustained 6	ons support lance Netw also implem errors, orbit o-Optical D f appropriat	; attack warr ork Improver tents modific al debris mer eep space Su ion account is	ning for U.S. ment Prograr actions requir assurement ar urveillance Sy from FY 97 afevelopment	satellites, n (SSNIP) ed to nd 'stem and on. of, or
1111	(U) \$2,008 (U) \$386 (U) \$6,286 (U) \$8,680	Continued GEODSS telescopes and Eglin FPS-85 radar O&M cost reduction modifications. Continued astrodynamic standards, star catalog maintenance and deep space anomaly detection efforts to improve the accuracy of orbital element data, to improve consistency between sensors and to correct basic inadequacies of existing models for non-standard orbits. Continued systems engineering level-of-effort to define and support required sensor investment programs for FY96 implementation Total	FPS-85 radaralog mainter en sensors a ort to define	O&M cost nance and d nd to correct and support	reduction n eep space al t basic inad i required se	nodifications nomaly detec equacies of e msor investn	tion efforts t existing mod	to improve t els for non- ns for FY96	he accuracy standard orbi implementa	of orbital its. tion	
1 1 1 1	(U) \$4,700 (U) \$2,109 (U) \$1,100 (U) \$1,100	Continue level-of-effort support to GEODSS and Eglin O&M cost reduction modifications. Continue systems engineering level-of-effort to define, analyze and model operating and maintenance sustainment efforts for FY 97 and on. Continue astrodynamic standards, star catalog maintenance and deep space anomaly detection efforts to improve the accuracy of orbital element data, to improve consistency between sensors and to correct basic inadequacies of existing models for non-standard orbits. Total	S and Eglin O&M cost reduction modifications. It to define, analyze and model operating and milog maintenance and deep space anomaly detectors and to correct basic inadequacies of existing its and to correct basic inadequacies.	O&M cost 1 analyze and ance and de rrect basic ii	reduction m model oper ep space an nadequacies	odifications. ating and m omaly detect of existing 1	aintenance s ion efforts to models for n	ustainment improve th on-standard	efforts for F? e accuracy o orbits.	Y 97 and on. f orbital elen	lent
ı	(U) \$0	Not Applicable.									
				Page 4 of 16 Pages	16 Pages				Exhibit R-2	3-2	

RDT&E BUDGET ITEM JUS	SUL M	TIFICATION SHEET (R-2 Exhibit)	ION SH	EET (R	2 Exhib	E E		DATE Ma	March 1996
BUDGET ACTIVITY 7 - Operational System Development			PE NU 030	PE NUMBER AND TITLE 0305910F Spac	DTITLE Spacetrack (Space)	k (Space			
PROJECT NO. AND NAME 2295 Space Surveil Net Improvement Pgm (SSNIP)*	SSNIP)*		:						
(U) B. Program Change Summary (\$ in Thousands)	(Sp					Toto!			
		FY 1995 9,343 9,343	됩	$\frac{\text{FY } 1996}{9,822}$	FY 1997 3,642	Lotal Cost Continuing	ığı		
(U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram	am	- 663	77	- 465 - 1,305 - 143					
 d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY96 PB (U) Current Budget Submit/President's Budget 		8,680		7,909	-3,642	Continuing	g		
(U) Change Summary Explanation:									
Funding: Reflects transition to the sustainment phase funded via the O&M 3400 appropriation account.	ent phase fu	nded via the	O&M 3400	appropriati	on account.				
Schedule: None.									
Technical: None.									
(U) C. Other Program Funding Summary (\$\sums \text{in Thousands})	housands)							É	E 4
(I) Other Promement	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	Compl	Cost
(U) Space Mods with Initial Spares	16,501	18,953	14,983	4,267	9,019	6,855	5,150	Cont	Cont
			Page 5 of 16 Pages	6 Pages				Exhibit R-2	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305910F Spacetrack (Space)	
PROJECT NO. AND NAME 2295 Space Surveil Net Improvement Pgm (SSNIP)*		
(U) D. <u>Schedule Profile</u> FY 1995 1 2 3 4	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
(U) GEODSS cost savings mods (U) Implementation and sustainment	×	
	Page 6 of 16 Pages	Exhibit R-2

RDT&E PROGRAM ELEMENT/PR	ROJECT COST BREAKDOWN (R-3)	ST BREAK	JOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE N	PE NUMBER AND TITLE 0305910F Spac	отпы Spacetrack (Space)	
PROJECT NO. AND NAME 2295 Space Surveil Net Improvement Pgm (SSNIP)*				
(U) A. Project Cost Breakdown (\$ in Thousands)	FY 1995	FY 1996	FY 1997	
(U) Sustaining Engineering Level-of-Effort (U) Total	8,680 8,680	7,909 7,909	0	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands) Not Applicable.	S in Thousands)			
	Page 7 of	Page 7 of 16 Pages		Exhibit R-3





	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICAL	TION SE	TEET (R	≀-2 Exhi	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 7 - Operatio	вирдет астіvіту 7 - Operational System Development		PE NI 030	PE NUMBER AND TITLE 0305910F Spac	o ππ∟ε Spacetrack (Space)	:k (Space	(6			
PROJECT NO. AND NAME 4239 Air Force Mau	ROJECT NO. AND NAME 4239 Air Force Maui Optical Station*		!							
	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
4239 Air Force	Air Force Maui Optical Station*	5,454	6,132	0	0	0	0	0	0	Continuing
(U) A. Missi AMOS s data to A national Budget A	(U) A. Mission Description and Budget Item Justification AMOS serves as a national R&D testbed for electro-optics and imaging technology supporting government and academic communities. It also provides operational data to AFSPC: infrared signature data and compensated imaging data used for space object identification and mission/payload assessment. Other government labs, national science foundations and other scientific agencies use of this facility are funded via other sources. This project is an Operational Systems Development Budget Activity Research Category because it involves a level-of-effort for sustained engineering support for development of, or modifications to, an operational	and imaging imaging data use of this fa	y technology 1 used for sp cility are fur for sustaine	/ supporting // sace object id // nded via oth // engineerii	government lentification er sources. '	and academ and mission This project or developme	nic communi/payload assis an Opera	ities. It also sessment. O tional Systen odiffications t	provides ope ther governm ns Developm o, an operatii	rational tent labs, ent
SPACE	SPACETRACK network site.									
(U) <u>FY 1995</u> - (U) \$4,454 - (U) \$800 - (U) \$200 - (U) \$5,454	Continued basic AMOS facility operations, maintenance and support of upgrade integration efforts. Continued development of an observatory control system in support of AEOS, MHPCC supercomputer and Hi-Class Lidar projects. Continued development of sensors for daylight imaging and geosynchronous SOI.	, maintenan control syster ight imaging	ce and supp m in suppor ; and geosyr	ort of upgra t of AEOS, ıchronous S	de integratio MHPCC suj OI.	n efforts. percomputer	and Hi-Cla	ss Lidar proj	ects.	
(U) FY 1996 - (U) \$3,132 - (U) \$2,000 - (U) \$1,000 - (U) \$1,000	Continue basic AMOS facility operations, Continue development of an observatory or Continue development of sensors for dayli Total	maintenance and support of upgrade integration efforts. ontrol system in support of AEOS, MHPCC supercompught imaging and geosynchronous SOI.	e and suppo 1 in support and geosync	ort of upgrad of AEOS, 1 chronous SC	e integratior VHPCC sup)I.	efforts. ercomputer 2	ınd Hi-Clası	s Lidar proje	cts.	
(U) <u>FY 1997</u> - (U) \$0	1997 Not Applicable									
			Dans 8 of	.16 Dans				Ryhihit R.2	c.	
			rage o u	Fage 8 of 10 Fages				באוווטור	77	

	RDT&E BUDGET ITEM JUS	STIFICATIO	N SHEET (TIFICATION SHEET (R-2 Exhibit)		DATE March 1996
8UDGE 7-0	ВИDGET АСТIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0305910F Spac	^{Б ТТ} Е Spacetrack (Space)	Space)	
PROJE(4239	PROJECT NO. AND NAME 4239 Air Force Maui Optical Station*	**************************************				
(U) B.	(U) B. Program Change Summary (\$\sums\$ in Thousands)				Total	
		FY 1995	FY 1996	FY 1997	Cost	
(U)	(U) Previous President's Budget	5,024	1,061	2,997	Cont	
γ ₹ ()()	(U) Appropriated Value	5,872	6,361			
(U) A	culustification to Appropriated Value Cong Gen Reductions	- 768	- 135			
Ď.	SBR		ā			
ਹਂ ਚ	c. Umnibus or Other Above I breshold Reprogram	030	- 94			
) (3)	 u. Derow Trueshold Keprogramming (U) Adjustments to Budget Years Since FY96 PB 	+ 350		-2 997		
(E)	Current Budget Submit/President's Budget	5,454	6,132	0	Cont	
(C)	(U) Change Summary Explanation:					
	Funding: Adjustments to Budget Years Since FY96 PB reflects funding realignments to the O&M appropriation budget account beginning in FY96. This activity will continue as part of normalized sustaining engineering support services in the 3400 O&M appropriation account from FY 97 and on. This consolidation is consistent with the current business plan for the next five year infrastructure support services contract and the fact that the Maui Space Surveillance Site shares a single operations crew and consolidated maintenance functions which will help further leverage scarce resources.	3 reflects funding in graph of the service year infrastruct unctions which wi	realignments to test in the 3400 Ourse support servi	he O&M appropria &M appropriation ces contract and th rerage scarce resou	ntion budget accoun account from FY 9 e fact that the Mau rces.	reflects funding realignments to the O&M appropriation budget account beginning in FY96. This activity ng support services in the 3400 O&M appropriation account from FY 97 and on. This consolidation is e year infrastructure support services contract and the fact that the Maui Space Surveillance Site shares a nctions which will help further leverage scarce resources.
	Schedule: None.					
	Technical: None.					
(C)	(U) C. Other Program Funding Summary (\$\struct\sin Thousands) Not Applicable.	~				

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(U) D. Schedule Profile
Not Applicable.





RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ROJECT CO	ST BREAK	DOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE 1	PE NUMBER AND TITLE 0305910F Spac	PE NUMBER AND TITLE 0305910F Space)	
PROJECT NO. AND NAME 4239 Air Force Maui Optical Station*				
(U) A. Project Cost Breakdown (\$ in Thousands)				
	FY 1995	FY 1996	FY 1997	
(U) Operations and maintenance support level of effort (U) Total	5,454 5,454	6,132 6,132	00	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands) Not Applicable.	(\$ in Thousands)			
	Page 10 o	Page 10 of 16 Pages		Exhibit R-3

		RDT&E BUDGET ITEM JUS	TIFICA	TION SE	HEET (R	TIFICATION SHEET (R-2 Exhibit)	bit)		DATE	March 1996	96
BUDGET ACTIVITY 7 - Operatio	TIVITY	вирсет аститт 7 - Operational System Development		PE NI 030	PE NUMBER AND TITLE 0305910F Spac	ртп∟Е Spacetrack (Space)	k (Space	(٤			
PROJECT NO. AND NAME 4241 Advanced Ele	o. AND N	PROJECT NO. AND NAME 4241 Advanced Electro Optical System									
		COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
4241 Advar	Inced Elec	Advanced Electro Optical System	17,500	16,886	13,427	0	0	0	0	TBD	TBD
(U) A. Mi	ission D	Mission Description and Budget Item Justification									
The A in FY5 Operat	Advanced 91 per C ttional Sy ications	The Advanced Electro-Optical System (AEOS) is a 3.67 meter telescope addition to the Air Force Maui Optical Station (AMOS). The AEOS program was initiated in FY91 per Congressional direction. Congress has continued to appropriate funding to continue this project in FY93, FY94, FY95, and FY96. This project is an Operational Systems Development Budget Activity Research Category because it involves a level-of-effort for sustained engineering support for development of, or modifications to, an operational SPACETRACK network site.	neter telescop ued to appro ch Category lite.	e addition to priate fundi because it in	o the Air Forng to continuously a lev	rce Maui Opl ue this projec el-of-effort fe	tical Station ct in FY93, or sustained	(AMOS). ' FY94, FY9 engineering	The AEOS p 5, and FY96 3 support for	orogram was 5. This proje 6. developmer	initiated ect is an it of, or
(U) <u>FY 199</u> - (U) \$7,300 - (U) \$5,200 - (U) \$4,800 - (U) \$200 - (U) \$200	(U) <u>FY 1995</u> U) \$7,300 U) \$5,200 U) \$4,800 U) \$200 U) \$17,500	Continued telescope development incremental funding. Continued sensor instrumentation acquisitions. Continued lab support. Adjustment not yet in data base Total	ons.								
(U) <u>FY 199</u> - (U) \$9,386 - (U) \$6,500 - (U) \$1,000 - (U) \$1,886	(U) <u>FY 1996</u> U) \$9,386 U) \$6,500 U) \$1,000 U) \$16,886	Continue telescope development incremental funding. Continue sensor instrumentation acquisitions. Continue lab support.	al funding. ns.								
(U) <u>FY 199</u> - (U) \$13,427 - (U) \$13,427	(U) <u>FY 1997:</u> U) \$13,427 U) \$13,427	Continue telescope development incremental funding. Total	al funding.								
				Page 11 of 16 Pages	16 Pages				Exhibit R-2	7 -	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-	2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305910F Spac	D TITLE Spacetrack (Space)	
PROJECT NO. AND NAME 4241 Advanced Electro Optical System	:		
(U) B. Program Change Summary (\$ in Thousands)		, E	
FY 1995	FY 1996	FY 1997 Cost	S <u>st</u>
(U) Previous President's Budget 0	0 0 2 71	0 TBD	Q
Adjustments to Appropriated Value	17,500		
a. Cong Gen Reductions	-361		
c. Omnibus or Other Above Threshold Reprogram	- 253		
d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY96 PB		13,427	
(U) Current Budget Submit/President's Budget 17,500	16,886	13,427 TBD	Q
(U) Change Summary Explanation:			
Funding: Congress added \$17,500 in FY95 for continuation of this project. Of this amount, OSD has \$200 earmarked for an independent assessment of this project by NASA and instead identified it as an Omnibus source candidate. Congress has added another \$17,500 in FY 96 for continuation of this project. Air Force will budget for project continuation in FY 97. Funding was added in FY97 to complete the project.	oject. Of this amount, late. Congress has added in FY97 to complete	OSD has \$200 earmal led another \$17,500 in the project.	ked for an independent assessment of this FY 96 for continuation of this project. Air
Schedule: None.			
Technical: None.			
(U) C. Other Program Funding Summary (\$ in Thousands) Not Applicable.			
(U) D. Schedule Profile	FV 1006	HV 1997	
(U) Factory acceptance/occupancy x	2 3	4 1 2 x	3 4
Pa	Page 12 of 16 Pages		Exhibit R-2

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	PROJECT CO	ST BREAK	DOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE 00	PE NUMBER AND TITLE 0305910F Spac	PE NUMBER AND TITLE 0305910F Spacetrack (Space)	
PROJECT NO. AND NAME 4241 Advanced Electro Optical System				
(U) A. Project Cost Breakdown (S in Thousands)				
	FY 1995	FY 1996	FY 1997	
(U) Directed level of effort for AEOS Maui facilities	17,300	16,886	13,427	
(U) Adjustment for the NASA study not yet in data base (U) Total	200 17,500	16,886	13,427	
(U) B. Budget Acquisition History and Planning Information Not Applicable.	n (\$ in Thousands)			
	Page 13 c	Page 13 of 16 Pages		Exhibit R-3





		RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	IS NOI	HEET (R	-2 Exhi	bit)		DATE N	March 1996	6
BQI	вирбет Астіміту 7 - Operation	вир бет Асті vітУ 7 - Operational System Development		PE NU 030	PE NUMBER AND TITLE 0305910F Spac	⊓⊓∟E pacetrad	PE NUMBER AND TITLE 0305910F Space)	(6)			
PR(PROJECT NO. AND NAME 4279 Have Stare Radar**	ıΑΜΕ e Radar⁴*									
		COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
42	4279 Have Stare Radar**	adar**	060'6	23,778	5,440	0	0	0	0	TBD	TBD
9	`	A. Mission Description and Budget Item Justification The HAVE STARE (HS) radar was transferred from the intelligence budget in FY93 at the direction of Congress. The Air Force has identified a requirement for the HS is a bigh resolution X-band tracking and HS system and has programmed funding in this program element to complete development and to deploy the system. HS is a high resolution X-band tracking and imaging radar with a 27 meter mechanical dish antenna. HS will be deployed as a dedicated space surveillance sensor to support the mission of space object catalog maintenance of deep space objects and mission payload assessment. HS will retain its original design features and their inherent potential to support other missions. Operational site location deployment has not been determined. HS will provide both an improvement in capability and a reduction in overall SPACETRACK O&M costs. This system is currently in the EMD phase leading to an IOC in FY99. This project is an Operational Systems Development Budget Activity because it involves a level-of-effort for sustained engineering support for development of, or modifications to, an operational SPACETRACK network site.	telligence bu lement to co IS will be de essment. Hi ned. HS will o an IOC in for developr	dget in FY9 mplete deve ployed as a s will retain provide bot FY99. This	93 at the dire dire dopment and dedicated sport its original th an improvement and appropriately an improvement in an improvement in a modification.	ection of Correction of Correction of Correction design featurement in carroman of Operation sto, an oper	ngress. The he system. Fance sensor ures and their pability and al Systems I ational SPA	Air Force h IS is a high to support tl r inherent p a reduction Developmen	as identified resolution X: a mission of otential to suj in overall SF t Budget Actinetwork site.	ntelligence budget in FY93 at the direction of Congress. The Air Force has identified a requirement for the element to complete development and to deploy the system. HS is a high resolution X-band tracking and HS will be deployed as a dedicated space surveillance sensor to support the mission of space object catalog ssessment. HS will retain its original design features and their inherent potential to support other missions. ined. HS will provide both an improvement in capability and a reduction in overall SPACETRACK O&M to an IOC in FY99. This project is an Operational Systems Development Budget Activity because it for development of, or modifications to, an operational SPACETRACK network site.	it for the g and catalog issions.
[] [(U) <u>FY 1995</u> (U) \$8,8 90 (U) \$2 00 (U) \$9,090	Continued in-CONUS developmental and Completed technical analysis demonstrati Total	ntegration te g HS will be	sting and ev able to mee	integration testing and evaluation at Vandenberg AFB, CA. ng HS will be able to meet space surveillance requirements a	Vandenberg sillance requ	AFB, CA. iirements at	original mis	ssion site.		
1 1	(U) <u>FY 1996</u> (U) \$3,778 (U) \$9,000 (U) \$11,000 (U) \$23,778	Continue in-CONUS developmental and integration testing and evaluation at Vandenberg AFB, CA. Continue incorporation of functionality and connectivity modifications required for integration with the Space Surveillance Network. Begin site preparation at operational deployment location. Total	tegration tes I connectivity ment locatic	ting and eve / modificati nn.	aluation at V	andenberg / for integrat	AFB, CA. ion with the	Space Surv	eillance Netv	vork.	***************************************
111*	(U) <u>FY 1997</u> (U) \$4,000 (U) \$1,440 (U) \$5,440 Note: Rephasin	 (U) FY 1997 (U) \$4,000 Continue in-CONUS developmental and integration testing and evaluation at Vandenberg AFB, CA. (U) \$1,440 Continue site preparation at operational deployment location. (U) \$5,440 Total * Note: Rephasing and additional funding needed to complete this project to be determined subsequent to pending overseas siting decision. 	tegration tes oloyment loc this project t	ting and eva ation. o be determ	aluation at V	andenberg /	AFB, CA.	siting decis	ion.		
				Page 14 of 16 Pages	16 Pages				Exhibit R-2	7	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHEET (F	t-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305910F Spac	PE NUMBER AND TITLE 0305910F Space)	
PROJECT NO. AND NAME 4279 Have Stare Radar**			
(U) B. Program Change Summary (S in Thousands)		E P	
(U) Previous President's Budget 16,063 (U) Appropriated Value 19,063	95 FY 1996 63 24,700 63 24,700	FY 1997 Cost 5,500 TBD	
Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram	53 - 564 73 - 358		
d. Below Threshold Reprogramming - 2,328 (U) Adjustments to Budget Years Since FY96PB (U) Current Budget Submit/President's Budget 9,090	28 90 23,778	-60 5,440 TBD	
(U) Change Summary Explanation:			
Funding: Congress added \$3,000 in FY95 to accelerate the project but because of a delay in the overseas siting decision, funds were not required. Excess funds have been reprogrammed to other higher priority requirements via Congressional and Below Threshold Reprogramming actions. Schedule: Project delayed due to delay in overseas site selection and withheld funding. Technical: Development delayed due to withheld funding based on delayed siting decision.	at but because of a delay i Congressional and Belov nd withheld funding.	n the overseas siting decision v Threshold Reprogramming	n, funds were not required. Excess funds g actions.
(U) C. Other Program Funding Summary (\$\frac{1}{2}\$ in Thousands)			
EY 1995 FY 1996 (U) Prior year GDIP and OSD funding levels are classified.	FY 1997 FY 1998	FY 1999 FY 2000 F	10 l'otal FY 2001 Compl Cost
(U) D. Schedule Profile FY 1995 1 2 3 4	$\frac{\text{FY } 1996}{2}$	FY 1997	4
(U) HAVE STARE Radar Siting Decision			
	Page 15 of 16 Pages		Exhibit R-2
	3531		





RDT&E PROGRAM ELEMENT/P	PROJECT COST BREAKDOWN (R-3)	ST BREAK	DOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE N 03	PE NUMBER AND TITLE 0305910F Spac	PE NUMBER AND TITLE 0305910F Spacetrack (Space)	
PROJECT NO. AND NAME 4279 Have Stare Radar**				
(U) A. Project Cost Breakdown (\$ in Thousands)				
	FY 1995	FY 1996	FY 1997	
(U) SPO Support (U) Total	3,000 6,090 9,090	20,778 3,000 23,778	2,500 2,940 5,440	
40-907				
	Page 16	Page 16 of 16 Pages		Exhibit R-3

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	JSTIFICA	TION S	HEET (R	-2 Exhil	bit)		DATE	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development		PE NI 03(PE NUMBER AND TITLE 0305911F Defense Support Program (Space)	птсе Jefense S	upport F	rogram	(Space)		
COST (In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	60,628	34,870	29,397	36,715	36,022	34,079	35,866	Continuing	Continuing
3615 Talon Shield/Alert*	12,500	5,100	912	9,185	8,685	5,160	4,292	Continuing	Continuing
3624 Defense Support Program	48,128	29,770	28,485	27,530	27,337	28,919	31,574	Continuing	Continuing

(U) A. Mission Description and Budget Item Justification

ground communications network (GCN). DSP's primary mission is to provide tactical warning and limited attack assessment of a ballistic missile attack. The Talon provide theater missile warning and cueing. DSP is an operational system and is therefore included in the Budget Activity Research Category Operational Systems The Defense Support Program (DSP) is a system of satellites in geostationary orbits, fixed and mobile ground processing stations, one multi-purpose facility, and a Shield/ALERT (Attack and Launch Early Reporting to Theater) is an upgrade to ground station mission processing which exploits inherent satellite capability to

(U) Acquisition Strategy:

originally contracted 6 month launch centers. Satellite 23 will be the last of the DSP satellites to be procured. The follow-on to DSP, Space Based Infrared Systems satellites, will replace DSP starting in FY02. The ALERT squadron was activated on 1 Oct 94 with an ALERT IOC reached on 10 Mar 95. Further Talon Shield storage, testing, preparation for launch and on orbit testing. Current contract efforts are required to stretch the support of launch centers to 12 months from the The Defense Support Program (DSP) is currently sustaining production of the remaining satellites, 18 through 23. This sustainment includes post production RDT&E efforts will be required to meet the AFSPC FOC requirements and for use as the path finder for the first increment of the ground consolidation.

Total

(U) B. Program Change Summary (\$\sin\$ in Thousands)







RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N JUS	TIFICAT	ION SH	EET (R-	2 Exhib	it)		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development			PE NUR 030	PE NUMBER AND TITLE 0305911F Defe	rle efense Si	Defense Support Program (Space)	rogram (Space)		
(U) Adjustments to Budget Years Since FY96 PB (U) Current Budget Submit/President's Budget		FY 1995 60,628	ĒL	FY 1996 34,870	FY 1997 -12,638 29,397	Total Cost Continuing	11 St			
 (U) Change Summary Explanation: Funding: FY97 reductions - \$11.400M from program office support and \$1.238M for inflation rate adjustment. * The FY96 PB amount does not reflect funding reductions that are reserved for other DoD reprogramming needs (\$391). 	program of g reductions	ffice support s that are res	and \$1.238 erved for ot	M for inflather DoD rep	ion rate adji rogramming	ustment. ; needs (\$39	(1			
Schedule: None.										
Technical: None.										·
(U) C. Other Program Funding Summary (\$ in Thousands)	nousands)						-	Ę	Total	
(U) Missile Procurement (U) Other Procurement	FY 1995 354,171 23,051	FY 1996 64,729 38,455	FY 1997 70,967 450	FY 1998 174,142 0	FY 1999 115,810 0	FY 2000 158,482 0	FY 2001 177,816 0	Complete Continue	Cost Continue Continue	
Related RDT&E: (U) PE #603441F - SBIRS Dem/Val (U) PE #604441F - SBIRS EMD	115,418	250,663 162,276	120,151 173,290	122,212 300,155	131,254 540,530	85,889 631,291	85,961 656,151	Continue Continue	Continue Continue	
(U) D. Schedule Profile	FY 19	199 <u>5</u> 3 4	1	FY 1996 2 3	4	$\frac{\mathrm{FY}}{2}$	$\frac{\text{FY } 1997}{2} \qquad 4$	_		
 (U) Satellite Deliveries (U) MPF Transition to AFMC (U) LCS Termination (U) SRSU IOT&E First String 		×		×						
			Page 2 of 15 Pages	5 Pages				Exhibit R-2	-2	

RDT&E BUDGET	T ITEM JUSTIFICA	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	nent	PE NUMBER AND TITLE 0305911F Defense Support Program (Space)	m (Space)
	FY 1995	$\frac{\text{FY 1996}}{1 2 3 4 1 2 3}$	7
 (U) SRSU IOT&E Second String (U) Fixed Site Computer Award (U) Transition MCS Award (U) ALERT LOC Contract Award (Jul 93) (U) Hardware Install Complete (U) System Test Complete (U) ALERT IOC Contract Award 	×		•
(U) Final Hardware Installation (U) Talon Shield II Contract Award (U) ALERT FOC/Grnd Consolidation (FY99)	××	×	
(U) Satellite launches	×	\varkappa	
		Page 3 of 13 Pages	Exhibit R-2





RDT&	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	IS NOL	HEET (R	-2 Exhil	bit)		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	em Development		PE NI 030	PE NUMBER AND TITLE 0305911F Defe	пть Jefense S	Defense Support Program (Space)	rogram (Space)		
PROJECT NO. AND NAME 3615 Talon Shield/Alert*										
(spuesnou_ (In Thousands)	usands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3615 Talon Shield/Alert*		12,500	5,100	912	9,185	8,685	5,160	4,292	Continuing	Continuing
(U) A. Mission Description The Talon Shield projec more timely and accurat providing accurate, time	(U) A. <u>Mission Description and Budget Item Justification</u> The Talon Shield project identified changes to existing DSP processing to enhance theater missile defense warning capabilities. These enhancements will facilitate more timely and accurate detection, identification, location and tracking of theater missile threats. This data supports attack operations/counterforce operations by providing accurate, timely launch prediction. In addition, this data will support active and passive defense forces by providing target cueing data and precise impact point prediction. The Air Force will transition these enhancements to an operational system, ALERT, to provide continuous real-time warning to the warfighter.	P processing n and trackin, this data will	to enhance g of theater support ac n operation	theater miss missile three tive and pass al system, A	sile defense vats. This dat sive defense LERT, to pr	warning cap: ta supports a forces by pre	abilities. The track operate vyiding targuous real-ti	ese enhance ions/counter et cueing dat me warning	ments will fa force operati ia and preciss to the warfig	cilitate ons by i impact hter.
(U) FY 1995 - (U) \$3,800 - (U) \$1,600 - (U) \$1,609 - (U) \$1,699 - (U) \$100 - (U) \$500 - (U) \$500 - (U) \$1,699 - (U) \$1,699 - (U) \$1,699 - (U) \$1,699 - (U) \$1,699 - (U) \$1,699 - (U) \$1,708 - (U) \$1,778 - (U) \$1,778 - (U) \$2,100 - (U) \$1,778 - (U) \$1,778 - (U) \$2,100	Combined Air Force and BMDO funded project. Continue Talon Shield hardware and software development. Initiate Pre-Operational software development support. Continue Operations and Maintenance Training Plan development and begin implementation. Begin hardware and software data package. FFRDC and office support. Initiate Initial Operational Test & Evaluation. Initiate Independent Verification and Validation. Funds to be moved from BPAC 3624 to 3615 within this PE Continue Talon Shield development (BMDO funded). Continue development to achieve ALERT full operational capability. Continue Operations and Maintenance Training Plan development and implementation. FFRDC and office support. Funds to be moved from BPAC 3624 to 3615 within this PE Total	O funded project. re and software de re development st tenance Training lata package. t & Evaluation. on and Validation. 33624 to 3615 will of the remance Training tenance Training.	ject. re development support. ing Plan de tion. within this is within this lange Plan de ing Plan de ing Plan de ing Plan de ing Plan de ing Plan de ing Plan de ing Plan de ing Plan de ing Plan de ing Plan de ing Plan de	nent. svelopment s al capability svelopment s s PE	ınd begin im	plementatio	ė			
			Page 4 of 15 Pages	15 Pages				Exhibit R-2	-2	

RDT8	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	IFICATIO	N SHE	T (R-2 Exh	ihit)		DATE	7000
виреет астіліту 7 - Operational System Development	em Development		PE NUMBER AN 0305911F	PE NUMBER AND TITLE 0305911F Defense	Defense Support Program (Space)	ogram (March 1996
PROJECT NO. AND NAME 3615 Talon Shield/Alert*	£.							
(U) <u>FY 1997</u> - (U) - (U) \$7,781 - (U) \$1,578 - (U) \$-8,447 - (U) \$912	Continue Talon Shield development (BMDO funded). Continue software development to achieve ALERT full operational capability. FFRDC and office support. Funds to be moved from BPAC 3624 to 3615 within this PE Total	nent (BMDO funded). to achieve ALERT full oper 3624 to 3615 within this PE	ded). .T full opera hin this PE	tional capability.				
(U) B. Program Change Su	Program Change Summary (\$ in Thousands)				i			
 (U) Previous President's Budget (FY96) (U) Appropriated Value (U) Adjustments to Appropriated Value a. Congressional General Reductions b. SBIR 	rdget (FY96) riated Value ral Reductions	FY 1995 12,500 12,500 0	FY 1996 5,399 5,399 -299	6 EY 1997 9 3,649 9 3,649 8,719 9 -11,456	Total <u>Cost</u> Continuing			
	Omnibus or Other Above Threshold Reprogramming Below Threshold Reprogramming justments to Budget Years Since FY96 PB rrent Budget Submit/President's Budget	(3,999) 12,500	(4,064) 5,100) (8,447) 0 9,359	Continuing			
(U) Change Summary Explanation: Funding: Funding	unge Summary Explanation: Funding: Funding realignment required to properly locate Talon Shield II funding in the Talon Shield/ALERT BPAC.	: Talon Shield]	II funding ii	the Talon Shield	/ALERT BPAC.			
Schedule: None.								
Technical: None.								
(U) C. Other Program Fun	(U) C. Other Program Funding Summary (S in Thousands)						Ę.	Total
	FY 1995	FY 1996 FY	FY 1997 FY	FY 1998 FY 1999	FY 2000	FY 2001	Compl	Cost
		Page	Page 5 of 15 Pages	ses			Exhibit R-2	
			1581					
(!				





RDT&E BUDGET ITEM JUS	EM JUS	IFICAT	ION SH	TIFICATION SHEET (R-2 Exhibit)	2 Exhib	it)		DATE Ma	March 1996	
BUDGET ACTIVITY 7 - Operational System Development			PE NUN 030	PE NUMBER AND TITLE 0305911F Defe	TLE efense St	upport P	Defense Support Program (Space)	Space)		
PROJECT NO. AND NAME 3615 Talon Shield/Alert*										
(U) Missile Procurement (U) Other Procurement	FY 1995 354,171 23,051	FY 1996 64,729 38,455	FY 1997 70,967 450	FY 1998 174,142 0	FY 1999 115,810	FY 2000 158,482 0	FY 2001 177,816 0	To Compl Cont Cont	Total <u>Cost</u> Cont	
Related RDT&E: (U) DSP (Project 3624) (U) PE #603441F - SBIRS Dem/Val (U) PE #604441F - SBIRS EMD	48,128 115,418 112,981	29,770 199,663 162,276	28,485 120,151 173,290	27,530 122,212 300,155	27,337 131,254 540,530	28,919 85,889 631,291	31,574 85,961 656,151	Cont Cont	Cont Cont Cont	
(U) D. <u>Schedule Profile</u>	FY 1995 2 3	3 S	1	FY 1996 2 3	4	FY 1997	99 <u>7</u> 3 4			
 (U) ALERT LOC Contract Award (Jul 93) (U) Hardware Install Complete (U) System Test Complete (U) ALERT IOC Contract Award (U) IOC (U) Complete Training (U) Start Blue Suit Maintenance (U) Final Hardware Installation (U) ALERT FOC Certification (Oct 96) 	××		×	×	×	M				
			Page 6 of 15 Pages	5 Pages				Exhibit R-2		

RDT&E PROGRAM ELEMENT/PROJECT	RAM ELI	EMENT/PR		COST BI	REAKDO	COST BREAKDOWN (R-3)	∞	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	velopmen			PE NUMBER AND TITLE 0305911F Defe	AND TITLE F Defen	ऽमाराह Defense Support Program (Space)	rt Prograr	n (Space)	
PROJECT NO. AND NAME 3615 Talon Shield/Alert*									
(U) A. Project Cost Breakdown (\$ in Thousands)	in Thousand	(S	FY 1995	FY 1996		FY 1997			
(I) Develonmental Sunnort Equipment Acquisition	ent Acquisitio	•			-	c			
	omembac mo	=	2,100	,	100	3,471			
			1,295	1,5	1,599	0			
(U) Training Development			1,590		0	0			
			0		0	0			
			8,791	χ. ·	5803	4,310			
			158	•	158	50			
			2,565	1,3	1,540	1,528			
			986.5-	4,004	90	-6,44/			
(U) Total			12,500	Ų,	5,100	912			
(U) B. Budget Acquisition History and Planning Information (S in Thousands)	and Plannin	g Information (S	s in Thousan	(sp					
Performing Organizations:	٠								
Contractor or Contract Government Method/Type Performing or Funding	Award or Obligation	Performing Activity	Project Office	Total Prior to	Budget	Budget	Budget	Budget to	Total
	<u>Date</u>	<u>EAC</u>	EAC	FY 1995	FY 1995	FY 1996	FY 1997	Complete	Program
Development	0	Ę	É	c	0	c	c		.,
Aerojet CPAF SPARTA CPAF	Aug 92 Aug 94	IBD	180	>	8,970 487	0	0	Continue	Continue 487
ap,	Mar 95				288	0	0		288
Aerojet (FO) CPAF	Oct 95					7,086	7,781		Continue
Support and Management Organizations	ions							·	;
SMC				0	3,528	1,778	1,578	Continue	Continue
			Pag	Page 7 of 15 Pages	es			Exhibit R-3	R-3





RDT&E PROGRAM ELEMENT	ROG	RAM EL		PROJECT (COST BREAKDOWN (R-3)	REAKDO	WN (R-3		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	em De	velopment			PE NUMBER AND TITLE 0305911F Defe	AND TITLE F Defens	PE NUMBER AND TITLE O305911F Defense Support Program (Space)	t Program	າ (Space)		
PROJECT NO. AND NAME 3615 Talon Shield/Alert*	<u>*</u> .							•			
Contractor or Contract Government Method/Tyl Performing or Funding Activity Vehicle Dept Air Force AF616	Contract Method Type or Funding Vehicle AF616	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to <u>FY 1995</u>	Budget FY 1995 3,226	Budget <u>FY 1996</u> 300	Budget FY 1997 0	Budget to Complete	Total Program 3,526	
Test and Evaluation Organizations Not Applicable.	zations										
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	n History	and Plannin	g Information C	ontinued (S	in Thousands	Q.					
Government Furnished Property:	operty:										
Contract Method/Tyl Item or Funding Description Vehicle	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Delivery <u>Date</u>		Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Property GF Hardware	<u>srtv</u>		Aug 94		427	0	0	0	0	427	
Support and Management Property	roperty										
Test and Evaluation Property	. \Z										
Subtotal Product Development Subtotal Support and Management	ent gement				427	9,745 6,754	7,086 2,078	7,781	Continue Continue	Continue Continue	
Subtotal Test and Evaluation Adjustments Total Project	u				427	-3,999 12,500	-4,064 5,100	-8,447 912	Continue Continue	Continue Continue	
				$Pa_{\rm j}$	Page 8 of 15 Pages	ses		į	Exhibit R-3	R-3	
					1584						

RDT	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION SI	HEET (F	R-2 Exhi	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development	em Development		PE NI 030	PE NUMBER AND TITLE 0305911F Defe	ЭТІТЕ Defense Support Program (Space)	Support F	Program	(Space)		
PROJECT NO. AND NAME 3624 Defense Support Program	Program									
COST (In Thousands)	nousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3624 Defense Support Program	E	48,128	29,770	28,485	27,530	27,337	28,919	31,574	Continuing	Continuing
Note: FY94 available fund (U) A. Mission Descriptic The DSP system provictions-, and post-attack multi-purpose facility, ballistic missile attack provides funding for de and ground station har	Note: FY94 available funds is actually \$36,898M due to \$10M being place on withhold as a source for the FY95 Omnibus. (U) A. Mission Description and Budget Item Justification The DSP system provides a space-based surveillance system to detect and report missile and space launches and nuclear detonations in near real time during pretrans-, and post-attack periods. The DSP system consists of a constellation of satellites in geostationary orbits, fixed and mobile ground processing stations, one multi-purpose facility, and a ground communications network (GCN). DSP's primary mission is to provide tactical warning and limited attack assessment of a ballistic missile attack. DSP also detects and reports nuclear detonation events and provides information for theater warning and exploitation. This program element provides funding for development to modernize ground stations to ensure continued operability, integration of satellites to launch vehicles, procurement of satellites and ground station hardware, and operation of the DSP ground stations.	M being pla m to detect a of a constella vork (GCN). zar detonatio utions to ensu	ce on withh nd report m ntion of satel DSP's prim n events and nre continues.	old as a sou issile and sp lites in geos ary mission I provides in d operability	ace for the ace launches tationary ort is to provide formation for integration for integration for integration for the ace is the ac	FY95 Omni s and nuclea oits, fixed an e tactical wan or theater wa n of satellites	bus. r detonation d mobile gr. rning and li urning and e	s in near rea ound process mited attack xploitation. ehicles, proc	I time during ing stations, assessment o This progran urement of s	pre-, one f a n element atellites
(U) <u>FY 1995</u> - (U) \$600	Continue software upgrade to program analysis tool.	rogram anal	ysis tool.							
- (U) \$400	Contractor claims.	ı								
- (U) \$2,500 - (I) \$7,000	Begin special studies to support DSP satellite manufacturing, production, test and launch activitie Complete integration of DSP mobile ground terminal and Miletar Mobile communication vehicle	t DSP satellit	te manufactu	ıring, produ id Milstar N	DSP satellite manufacturing, production, test and launch activities as required.	nd launch act	tivities as re	quired.		
(U) \$3,100 - (U) \$3,100	Compres integration of D31 mount ground to mind and innote communication venero. Continue development to replace unsupportable satellite readout equipment at the fixed ground stations. Complete installation and checkout for the overseas ground station.	se unsupport id station.	able satellite	readout equ	nipment at th	ne fixed grou	ind stations.	Complete in	nstallation an	ō
	Continue orbital constellation support software development and anomaly resolution.	upport softw	are developi	nent and an	omaly resolu	ıtion.				
	FFKUC.	;	,		,					
- (U) \$10,029 - (U) \$7,100	Program office support (TDYs, supplies, computer support, ECO risk, etc). Continue yearly software development facility support to program activities for ground station operations.	supplies, co	mputer supp ty support to	ort, ECO ris o program a	sk, etc). ctivities for s	ground static	on operation	v.		
	Continue development to replace unsupportable RADEC Data Units at the fixed ground stations.	e unsupport	able RADEC	Data Units	at the fixed	ground stati	ions.			
- (U) 31,200 - (U) \$3,999 - (U) \$48,128	Continue development and sustaining capabilities for adquisition rogistics engineering support. Funds to be moved from BPAC 3624 to 3615 within this PE Total	3624 to 361	nining capabilities for acquis 3624 to 3615 within this PE	quistion to s PE	gistics engin	widns amina	JI			
			Page 9 of 15 Pages	15 Pages				Exhibit R-2	7-5	





RDT&E	BUDGET ITEM JUS	TIFICATION SHEET (R-2 Exhibit)	ET (R-2	Exhibit		DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	em Development	PE NUMBER ANI 0305911F	PE NUMBER AND TITLE 0305911F Defe	nse Sup	o ππ∟ε Defense Support Program (Space)	(Space)
PROJECT NO. AND NAME 3624 Defense Support Program	Program					
	Continue special studies to support DSP satellite manufacturing, production, test, and launch activities as required.	atellite manufact	uring, product	ion, test, an	d launch activities a	s required.
- (U) \$7,900 - (U) \$1,000 - (I) \$2,696	Continue orbital constellation support sortware development and anomaly resolution. Continue independent verification and validation. FFRDC.	tware developmer lidation.	nt and anoma	y resolution		
	Program office support (TDYs, supplies, ECO risk, etc.). Continue yearly software development facility support to ground station operations activities. Continue development to replace unsumportable RADEC Data Units at the fixed ground stations.	supplies, ECO risk, etc.). spment facility support to grammortable RADEC D	round station Jata Units at t	operations a	activities. und stations.	
	Continue development and sustaining capabilities for acquisition logistics engineering. Funds to be moved from BPAC 3624 to 3615 within this PE Total	aining capabilities for acquis 3624 to 3615 within this PE	isition logistio E	s engineeri	- Sau	
(U) <u>FY 1997</u> - (U) \$2,000 - (U) \$6,000 - (U) \$400	Continue special studies to support DSP satellite manufacturing, production, test, and launch activities as required. Continue orbital constellation support software development and anomaly resolution. Continue independent verification and validation. FFRDC.	satellite manufact ftware developme: lidation.	uring, produc nt and anoma	tion, test, ar ly resolutior	nd launch activities 2 1.	is required.
	e yearly software develo e development and susta office support (TDYs, be moved from BPAC	opment facility support for graining capabilities for acquis supplies, ECO risk, etc.). 3624 to 3615 within this PE	ground station usition logisti us	ı operations cs engineeri	program activities. ng.	
(U) B. Program Change Summary (\$ in Thousands)	Summary (\$ in Thousands)					
(U) Appropriated Value	iz.	FY 1995 FY 1 53,616 38, 54,859 38,	FY 1996 E 38,273 38,273 - 6,231	<u>FY 1997</u> 35,170	Total <u>Cost</u> Continuing	
(U) Adjustments to Appropriated value a. Congressional General Reductions	SU	-1,337 -1,433 Page 10 of 15 Pages	-1,433 -15 Pages	-1,375		Exhibit R-2
		1 450 10 0/ 12	4 6500			

RDT&E BUDGET ITEM JUS	ET ITEM	JUSTIF	ICATIO	TIFICATION SHEET (R-2 Exhibit)	r (R-2 E	xhibit)		DATE	March 1996	.
BUDGET ACTIVITY 7 - Operational System Development	oment			PE NUMBER AND TITLE 0305911F Defe	AND TITLE F Defen	se Supp	ort Prog	D TITLE Defense Support Program (Space)		
PROJECT NO. AND NAME 3624 Defense Support Program										
b. SBIR/Other	ſ		FY 1995 - 1,395	FY 1996 -839	FY 1997		Total <u>Cost</u>			
 c. Omnibus or Other Above Threshold Reprogramming d. Below Threshold Reprogramming e. Realignment between BPACs, same PE (ZBT) (U) Adjustments to Budget Years Since FY96 PB (U) Current Budget Submit/President's Budget 	l Reprogramı ; PE (ZBT) '96 PB dget	ning	-3,999 (-3,999) 48,128	(-4,064) 29,770	•	-5,310 (-8,447) 28,485 Co	Continuing			
(U) Change Summary Explanation: Funding: Funding realignment required to properly locate Talon Shield II funding in the Talon Shield/ALERT BPAC.	uired to prop	erly locate T	alon Shield	II funding in	the Talon Sl	hield/ALER	T BPAC.			
Schedule: None.										- <u>, , , , , , , , , , , , , , , , , , ,</u>
Technical: None.										
(U) C. Other Program Funding Summary (\$\sqrt{s}\$ in Thousands)	ry (\$ in Thou	(spues)						Ę	Tofel	
(U) Missile Procurement(U) Other Procurement	FY 1995 354,171 23,051	FY 1996 64,729 38,455	FY 1997 70,967 450	FY 1998 174,142 0	$\frac{\text{FY } 1999}{115,810}$	FY 2000 158,482 0	FY 2001 177,816 0	Complete Continuing Continuing	Continuing	
Related RDT&E: (U) Talon Shield/ALERT (Project 3615) (U) PE #603441F - SBIRS Dem/Val (U) PE #604441F - SBIRS EMD	12,500 115,418 112,981	5,100 199,663 162,276	912 120,151 173,290	9,1 85 122,212 300,155	8,685 131,254 540,530	5,160 85,889 631,291	4,292 85,961 656,151	Continuing Continuing Continuing	Continuing Continuing Continuing	
			Page	Page 11 of 15 Pages	səs			Exhit	Exhibit R-2	
				1587						





RDT&E BUD(GET ITEM JUSTIFICATION	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	opment	PE NUMBER AND TITLE 0305911F Defense Support Program (Space)	(Space)
PROJECT NO. AND NAME 3624 Defense Support Program			
(U) D. Schedule Profile			
	$\frac{\text{FY } 1995}{2}$ 1 2 3 4	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	4
(U) Satellite Deliveries	X XX	×	
(U) INPT 1TAINSTUON TO ACTIVITY (U) LCS Termination (U) SRSU IOT&E First String (I) SRSU IOT&E Second String	×		
(U) Fixed Site Computer Award (U) Transition MCS Award	×		
	×	X	
	P	Page 12 of 15 Pages	Exhibit R-2

RD.	RDT&E PROGRAM ELEMENT/	RAM EL	EMENT/PR	PROJECT	COST BI	REAKDO	COST BREAKDOWN (R-3)	<u>~</u>	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	System De	velopmen	t		PE NUMBER AND TITLE 0305911F Defe	AND TITLE	ਮਸਮ Defense Support Program (Space)	t Progran			
PROJECT NO. AND NAME 3624 Defense Support Program	AME Ipport Progran	£									
(U) A. Project Cost Breakdown (\$ in Thousands)	st Breakdown (\$	in Thousand	(<u>s</u>)								
				FY-1995		FY 1996	FY 1997				
(U) Systems Engineering	ering			1,200		1,000	400				
_ ,,,	Souware Development Program Management Support			3,100 12,300	-	10,800 4,652	6,100 6,491				
	Development Support Equipment Acquisition	nt Acquisition		15,700		6,160	3,962				
(U) Travel				1,000		1,000	1,000				
				3,949		2,074 4.064	2,083 8.447				
				48,128	2	29,770	28,485				
(U) B. Budget Acquisition History and Planning Information (S in Thousands)	quisition History	and Plannin	g Information (s in Thousan	<u>ds)</u>						
Performing Organizations:	izations:										
Contractor or Government Performing	Contract Method/Type or Funding	Award or Obligation	Performing Activity	Project Office	Total Prior to	Budget	Budget	Budget	Budget to	Total	
Activity	Vehicle	<u>Date</u>	EAC	EAC	FY 1995	FY 1995	FY 1996	FY 1997	Complete	Program	
Product Development Organizations	nt Organizations										
Aerojet	CPAF	Oct 93	54,835	54,835	11,645	7,137	7,208	6,369	Continue	87,194	
Actojet Loral	CFAF FPIF/AF	Sep 93 Apr 94	166,884	110.918	9,606 34,379	3.250	0	0	0	9,956	
Loral	CPAF	Oct 93	71,189	62,577	14,972	7,226	2,910	120	Continue	87,805	
DOE	P.O.				2,000	1,100	250	0	0	3,350	
Dept of Air Force	AF616	1,5			2,197	6,036	2,847	1,137	Continue	12,217	
Fminps Lab	FPIF	Mar 94 Apr 94	700	700	300 700	0 1,248	0 1,246	0 1,303	0 Continue	300 5,197	
				Page	Page 13 of 15 Pages	zes			Exhibit R-3	2-3	
					1,500			E			





RD	RDT&E PROGRAM ELEMENT	SRAM EL	EMENT/PR	I/PROJECT (COST BF	REAKDO	COST BREAKDOWN (R-3)		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	al System De	velopmen			PE NUMBER AND TITLE 0305911F Defe	AND TITLE F Defens	PE NUMBER AND TITLE 0305911F Defense Support Program (Space)	t Progran			
PROJECT NO. AND NAME 3624 Defense Support Program	IAME upport Progra	E									
Contractor or Government	Contract Method/Type or Funding	Award or Obligation	Performing Activity	Project Office	Total Prior to	Budget	Budget	Budget	Budget to	Total	
Activity SPARTA	Vehicle CPAF	Date Ang 94	EAC	EAC	FY 1995 650	FY 1995 0	FY 1996 0	FY 1997 0	Complete 0	Program 650	
Program Off Supt ECO Risk	<u>:</u>	0			7,055	9,688	5,581	5,849 0	Continue	28,173 32	
Comment and Management Organizations	gament Organiza	fions									
Support and ivialia	MIPR	errom.			824	0	0	0	0	824	
Loral	FPIF/AF/CP				595	0	0	0	0	265	
Dent of Defense	MIPR				200	0	0	0	0	200	
Aerospace Corp	MORD				4,170	3,760	2,696	3,000	Continue	13,626	
Dept of Navy	MIPR				85	40	0	0	0	125	
Dent of Air Force	MIPR				999	353	0	0	0	1,018	
Aerojet	FPI/AF/FF		430,502	430,502	0	200	0	200	Continue	431,502	
Aerojet	CPFF/LOE		12,116	12,116	8,741	650	252	0	Continue	21,759	
TRW	FPI/CPFF		640,039	640,239	7,417	1,750	200	200	Continue	650,406	
Aerojet	CPFF		510,363	502,743	1,294	200	0	500	Continue	504,737	
TRW	C.F.		569 716	505 707	12,000	005	76/ 200	200	Continue	507.297	
ASEC	IJ.		017,000	101,000	209	341	932	260	Continue	2,042	
Total Decident	Organizations										
Not Applicable.	II OLKAIUZAUOIIS										
4											

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Exhibit R-3

RDT&E PROGRAM ELEMENT/P	M ELEMENT/PROJECT	ROJECT COST BREAKDOWN (R-3)	EAKDO	WN (R-3		DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	opment	PE NUMBER AND TITLE 0305911F Defe	AND TITLE F Defens	PE NUMBER AND TITLE 0305911F Defense Support Program (Space)	t Progran	n (Space)	
PROJECT NO. AND NAME 3624 Defense Support Program							
(U) B. Budget Acquisition History and Planning Information	Planning Information Continued (\$	Continued (\$ in Thousands)					
Government Furnished Property:							
Contract Method/Type Awar Item or Funding Oblig	Award or Obligation Delivery <u>Date</u> <u>Date</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Product Development Property SRSU FFIF/CPAF 1989	6;	9,629	0	0	0	0	9,629
Support and Management Property							
Test and Evaluation Property							
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Adjustment		93,133 37,430		20,074 5,632 4,064	14,778 5,260 8,447	Continue Continue Continue	Continue Continue Continue
Project Total		130,563		27,770	28,485	Continue	Continue
	Pa	Page 15 of 15 Pages	es			Exhibit R-3	7-3





	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICAL	IS NOI	IEET (R	-2 Exhil	bit)		DATE	March 1996	9
вирбет Астіміту 7 - Operational	вирсет астилту 7 - Operational System Development		PE NL 030	PE NUMBER AND TITLE 0305913F Nude	D TITLE Nudet Detection System (Space)	tection Sy	/stem (S	pace)		
PROJECT NO. AND NAME 2808 Nuc Detonation	ROJECT NO. AND NAME 2808 Nuc Detonation Det Sys (Sensors)									
	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
2808 Nuc Detonation	Nuc Detonation Det Sys (Sensors)	9,815	12,154	13,623	698'6	6,144	1,610	1,863	Continuing	Continuing
(U) A. Mission De The Nuclear De detection senso (ICADS). The and report any (Integrated Tac Budget Activity	A. <u>Mission Description and Budget Item Justification</u> The Nuclear Detonation (NUDET) Detection System (NDS) consists of space, control, and user equipment segments. The space segment consists of NUDET detection sensors on the GPS/NDS satellites. The control segment consists of ground control software and is known as the Integrated Correlation and Display System (ICADS). The user equipment segment consists of the Ground NDS Terminals (GNT). The NDS provides a worldwide, highly survivable capability to detect, locate, and report any nuclear detonations in the earth's atmosphere or in near space in near-real time. The NDS supports NUDET detection requirements for AFSPC and report any nuclear detonations and Attack Assessment [ITWAA]), USSTRATCOM (Nuclear Force Management), and AFTAC (Treaty Monitoring). NDS is classified Budget Activity Research Category Operational Systems Development because it is a post-Milestone 3 program.	S) consists of segment consound NDS Ture or in near VAA], USST	space, cont sists of grou rrminals (G space in ne RATCOM because it is	irol, and use and control s NT). The N ar-real time. (Nuclear Fc s a post-Milk	segment consists of space, control, and user equipment segmest consists of ground control software and is knound NDS Terminals (GNT). The NDS provides a wore or in near space in near-real time. The NDS suppo/AAI), USSTRATCOM (Nuclear Force Management evelopment because it is a post-Milestone 3 program.	segments. T is known as a worldwid supports NU ment), and A gram.	The space se the Integrat e, highly su DET detecti IFTAC (Tre	gment consised Correlation vivable cape on requirematy Monitorials	sts of NUDE on and Displ ability to det ents for AFS ing). NDS ii	T ay System ect, locate, PC s classified
(U) <u>FY 1995</u> (U) \$924 (U) \$7,372 (U) \$235 (U) \$960 (U) \$324 (U) \$9,815	Continued development integration and test of GNTs Continued ICADS development and software upgrades Continued development of GNT software common to ICADS Continued system engineering and program management for ICADS, GNT, and ADRU Continued mission support Total	st of GNTs are upgrades common to I(m manageme	CADS nt for ICAL	OS, GNT, an	nd ADRU					
(U) \$8,109 (U) \$8,109 (U) \$877 (U) \$1,910 (U) \$989 (U) \$269 (U) \$12,154	Continue ICADS and GNT development Continue NDS EMP Sensor on-orbit qualification Continue GNT development integration and test of GNTs Continue system engineering and program management for Continue mission support requirements Total	ification nd test of GNTs n management for ICADS, GNT and ARDU	Ts ut for ICAD	S, GNT and	ARDU					
			Page 1 o	Page 1 of 6 Pages				Exhibit R-2	R-2	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EET (R-2 Exhibit	DATE DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development 030	PE NUMBER AND TITLE 0305913F Nudet Detec	PE NUMBER AND TITLE 0305913F Nudet Detection System (Space)	
PROJECT NO. AND NAME 2808 Nuc Detonation Det Sys (Sensors)			
 (U) \$11,215 (U) \$11,215 (D) \$1,046 (D) \$1,013 (D) \$1,013 (D) \$349 (D) \$13,623 (D) \$13,623 Continue EMP sensor on-orbit qualification continue system engineering and program management for ICADS, GNT and ARDU Continue mission support requirements (D) \$13,623 (D) \$13,623 	GNT and ARDU		
(U) Acquisition Strategy:			
The NDS Acquisition Strategy is to sustain the NDS capability for IIR and IIF satellites. (U) B. Program Change Summary (\$\frac{1}{2}\$ in Thousands)	ites.		
		Total	
(1) Previous President's Budget 16 277	1996* FY 1997	Continuing	
10,140		gumung	
ropriated Value			
Gen Reductions -110	- 260		
- 212	- 728		
ld Reprogram - 3	- 135		
a. Decom Threshold Reprogramming (U) Adjustments to Budget Years Since FY96 PB (U) Current Budget Submit/President's Budget 9,815	- 7,660 12,154 13,623	Continuing	
(U) Change Summary Explanation:		C S X C Y LL F T T T T T T T T T T T T T T T T T	

Above Threshold Reprogramming" decrease (-\$135) reflects the Bosnia reduction. FY97 reduction in the "Adjustments to Budget Years Since the FY96 PB" (-\$7,660) reflects the NDS AF/AFTAC Laser Facility reduction, overhead reductions, and the Non-Pay Inflation reduction. Funding: A reduction (-\$3,000) was taken in the FY96 appropriation as a result of the Appropriation Conference and HAC Marks. FY96 "Omnibus or Other

* The FY96 PB amount does not reflect funding reductions that are reserved for other DoD reprogramming needs (\$139)

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Page 2 of 6 Pages

Exhibit R-2





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHE	EET (R-;	2 Exhib	it)		DATE Mar	March 1996	
ВИDGET АСТІVITY 7 - Operational System Development	PE NUM 0305	PE NUMBER AND TITLE 0305913F Nude	LE Idet Dete	ction Sy	PE NUMBER AND TITLE 0305913F Nudet Detection System (Space)	ace)		
PROJECT NO. AND NAME 2808 Nuc Detonation Det Sys (Sensors)				:				
Schedule: No Changes								F
Technical: No Changes (U) C. Other Program Funding Summary (\$\subseteq\$ in Thousands)						Ę	T of of	
(U) Operations & Maintenance 2,003 5,577 (U) Missile Procurement 45,201 18,502 (U) Other Procurement 5,580	EY 1997 7 5,590 2 4,112 0 2,085	FY 1998 5,772 4,233 4,308	FY 1999 6,007 3,614 1,324	FY 2000 6,211 3,599 1,317	FY 2001 6,420 2,401 1,213	Cont Cont Cont	Cont Cont	
Related RDT&E: (U) PE #305165F, NAVSTAR GPS (Space/Ground Segment) (U) PE #604480F, GPS Block IIF (U) PE #305911F, Defense Support Program								
(U) D. Schedule Profile								
FY 1995	$\frac{FY}{1}$	FY 1996 2 3	4	FY 1997 2 3	7 <u>7</u> 8			
Milestones & Program Start Critical Design Review						·		
(UDR) (U) Build 5 Systems Req Review (SRR) (U) Build 5 SDR (U) Build 5 Preliminary Design Review	×		×					
(FDK) (U) Build 6 (Block IIF Upgrade) Start (U) Build 5 CDR (U) Build 4B Acceptance test (AT)					* * *			
	Page 3 of 6 Pages	Pages	=			Exhibit R-2		

RDT&E BUDGET ITEM JUS	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305913F Nudet Detection System (Space)	
PROJECT NO. AND NAME 2808 Nuc Detonation Det Sys (Sensors)		
FY 1995 1 2 3	$\frac{5}{3}$ 4 1 $\frac{\text{FY 1996}}{2}$ 4 1 $\frac{\text{FY 1997}}{2}$ 4	
(U) GNT Milestones & Program Events (U) Phase I Deliveries to AFSPC/USSTRATCOM (U) Phase I Initial Operational Capability (IOC) (U) Phase II CDR/PSR (U) Phase III CDR	× × ×	
	Page 4 of 6 Pages	Exhibit R-2





RC	RDT&E PROGRAM ELEMENT	SAM ELE	MENT/PR	OJECT C	SOST BR	EAKDO	/PROJECT COST BREAKDOWN (R-3)		DATE	March 1996	
BUDGET ACTIVITY 7 - Operation	вирдет Астіуіту 7 - Operational System Development	elopment			PE NUMBER AND TITLE 0305913F Nude	AND TITLE F Nudet I	PE NUMBER AND TITLE 0305913F Nudet Detection System (Space)	System (_		
PROJECT NO. AND NAME 2808 Nuc Detonation	ROJECT NO. AND NAME 2808 Nuc Detonation Det Sys (Sensors)	ensors)		:							
(U) A. Project C	(U) A. Project Cost Breakdown (\$ in Thousands)	n Thousands	7	,							
				FY 1995	FY 1996	•	FY 1997				
	neering			960		989	1,013				•
(U) Software Upgrade	eropinent rade			2,400		2,700	3,000				
(U) Miscellaneous	s s			1,155	1,	247	1,387				
	Development Test & Evaluation			623		767	791				
	Program Management Support			226		247	263				
(U) Total				9,815		12,154	13,623				
(U) B. Budget A	(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	and Planning	Information (\$	in Thousand	(S)						
Performing Organizations:	nizations:										
Contractor or Government Performing Activity	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to <u>FY 1995</u>	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
 Product Developm	Product Development Organizations										
ICADS: Sandia Labs	SS/Cost/MIPR	Jan 96	Cont	Cont	690.6	7.372	8.109	11.215	Cont	Cont	
SAIC	C/CPAF/PR	Dec 95	Cont	Cont	4,458	320	331	339	Cont	Cont	
Sandia Labs	SS/Cost/MIPR	Jan 96	Cont	Cont	18,370	1,159	1,910	0	Cont	Cont	
Intermetrics	C/CPAF/PR	Dec 93	1,262	1,262	1,262	0	0	0 5	0 (1262	
SAIC	C/CPAF/PR	Dec 95	Cont	Cont	>	320	329	35/	Cont	Cont	
				Pag	Page 5 of 6 Pages	S			Exhibit R-3	£-3	
					1502						

RDT&E PR	RDT&E PROGRAM ELEMENT/PROJECT	MENT/PRO		COST BF	REAKDO	COST BREAKDOWN (R-3)		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	Development			PE NUMBER AND TITLE 0305913F Nude	AND TITLE F Nudet	र गा⊤∟ Nudet Detection System (Space)	System (
PROJECT NO. AND NAME 2808 Nuc Detonation Det Sys (Sensors)	ys (Sensors)									
Contractor or Contract Government Method/Type or Performing Funding Activity Vehicle	oe or Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office EAC	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
SAIC C/CPAF/PR AALF: C/CPAF/PR SAIC C/CPAF/PR	R Dec 95	Cont 198	Cont	0 198	320	329	337	Cont	Cont 198	
W-Sensor Support: SRI CPFF Los Alamos SS/FFP/MIPR Mission Multiple Sandia Labs SS/FFP/MIPR	Aug 94 IPR Jan 96 N/A IPR Oct 94	253 Cont Cont 4,780	253 Cont Cont 4,780	253 1,862 2,231 4,780	0 0 324 0	0 877 269 0	1,046 349 0	Cont Cont 0	253 Cont Cont 4,780	
Support and Management Organizations Not Applicable. Test and Evaluation Organizations Not Applicable.	<u>nizations</u> n <u>ns</u>									
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	ınt			42,201	9,815	12,154	13,623	Cont	Cont	
			Pag	Page 6 of 6 Pages	s			Exhibit R-3	9	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 EXHIBIT)	TIFICAT	HS NOI.	EET (R-	2 EXHIB	E (E		DATE N	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development		PE NU 040	PE NUMBER AND TITLE 0401119F C-5		Airlift Squadrons	ons			
*									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	0	5,000	1,153	3,533	1,831	0	0	0	11,517
4377 Real-Time In The Cockpit (RTIC)	0	0	672	0	0	0	0	0	672
4495 AWFCS Reliability Improvement Program	0	0	481	863'8	1,831	0	0	0	5,845
4523 CRAF Enhancement Study	0	2,000	0	0	0	0	0	0	5,000
		rage 1 of 17 rages	1/ Fapes				באווומוו ע-ל	7-1	

RDT&E BUDGET ITEM JUSTIFICATION	STIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0401119F C-5 Airlift Squadrons	

(U) A. Mission Description and Budget Item Justification

4377: Real-Time Information in the Cockpit (RTIC): The AMC Airlift and Air Refueling Mission Area Plans identify a system deficiency to protect aircraft from hostilities during combat operations. RTIC addresses this deficiency and increases aircrew survivability by providing aircrews with portable, on-aircraft, mission conditions. To limit system implementation costs, it is envisioned that RTIC will be "snapped-on" to any AMC mobility fleet aircraft as needed. These systems developed intelligence communication and display equipment to meet AMC requirements. This project is a low technical risk effort supporting fielded weapons are intended to be interchangeable between KC-135, KC-10, C-141, C-5, and C-17 aircraft, as required. This project is a FY97 new start modifying previously without full intelligence information capability. Information provided prior to mission departure is often outdated or incomplete upon arrival in theater. RTIC equipment to receive and display critical, real-time intelligence information. Strategic mobility aircrews often fly extended missions or transit enroute stations provides increased threat situational awareness and enables aircrews to make mission modifications to avoid enemy threats under rapidly changing combat systems and, therefore, is assigned to Budget Activity, Operational Systems Development. 4495: AWFCS Reliability Improvement Program: The C-5 All-Weather Flight Control System (AWFCS) Reliability Improvement Program replaces low reliability Line Replaceable Units (LRUs) in the automatic flight control system and replaces aging mechanical instruments in the engine and flight systems. Current trends indicate some components will be unsupportable within five years. This modification redesigns the architecture of the avionics.

(CRAF)" by exploring options such as lengthening contracts and considering ways to encourage CRAF providers to use more militarily capable aircraft. A new 4523: CRAF Enhancement Study: Following the C-17 DAB, USD(A&T) chartered a study effort to "Examine ways to strengthen the Civil Reserve Air Fleet project was established in the C-5 Airlift Squadron program element to accomplish this study. \$5M was put in this PE and BPAC in the Air Force database in anticipation of the above-threshold reprogramming, but the CRAF study will be completed within existing resources. Therefore, the funds were sourced for modifying Air Force Plant 3, Tulsa, OK as authorized by section 23-7 of the Defense Authorization Act. The data will be corrected at the next available opportunity

Page 2 of 17 Pages

Exhibit R-2





RDT&E BUDGET ITEM JUSTIFICATION	JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0401119F C-5 Airlift Squadrons	

(U) Acquisition Strategies:

4377: Real-Time Information in the Cockpit (RTIC): The intended acquisition strategy is to reutilize software and non-developmental hardware already prototyped in a competitive, fixed-price, contract award environment.

contractor. The integrating contractor will be responsible for the following actions: 1) modifying and qualifying Commercial Off-The-Shelf (COTS) software and 4495: AWFCS Reliability Improvement Program: The acquisition strategy is to employ a competitive, fixed-price contract award to establish a single integrating LRUs to meet C-5 performance requirements; 2) updating existing C-5 engineering and technical data; 3) developing interface control specifications based on performance requirements; 4) prototyping the system; and 5) supplying ground and flight test support.

4523: CRAF Enhancement Study: No acquisition strategy required since study accomplished using in-house AF resources.

(U) B. Program Change Summary (\$ in Thousands)

Total	Cost	793							5,724	6,517	
	FY 1997	793							360	1,153	
	FY 1996	0	0				2,000*			*000*	
	FY 1995	0	0							0	
(C) D. 110gram Change Summary (V. III 1100sanus)		(U) Previous President's Budget	(U) Appropriated Value	(U) Adjustments to Appropriated Value	a. Congressional/General Reductions	b. SBIR	c. Omnibus or Other Above Threshold Reprogram	d. Below Threshold Reprogramming	(U) Adjustments to Budget Years Since FY96 PB	(U) Current Budget Submit/President's Budget	

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Page 3 of 17 Pages

RDT&E BUDGET ITEM JUSTIFICATIO	TIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0401119F C-5 Airlift Squadrons	

(U) Change Summary Explanation:

Funding: * FY96 Funds were added to the C-5 program line in anticipation of an above-threshold reprogramming (see project description above). AFWCS project was added as a FY97 new program start (\$496). Adjustments for updated OSD inflation rates reduced costs for RTIC and AWFCS by \$121 and \$15, respectively.

Schedule: New program starts.

Technical: N/A

(U) C. Other Program Funding Summary (\$ in Thousands)

								To	Total	
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	Compl	Cost	
(U) PE# 040119F/C-5 Squadrons								•		
Aircraft Procurement, AF, BA-7, RTIC	0	0	0	1,551	1,582	1,618	1,654	1,712	8,117	
Other Production Charges, RTIC	0	0	0	0	0	0	0	0	0	
Aircraft Procurement, AF, BA-7, C-5 Mods,	0	0	0	0	0	0	0	0	0	
AWFCS										
Other Production Charges, C-5 Mods, AWFCS	0	0	0	0	0	41,191	37,900	180,785	259,876	
(U) PE# 0401218F/KC-135 Squadrons										
RDT&E, AF, BA-7	0	0	757	0	0	0	0	0	757	
Aircraft Procurement, AF, BA-7	0	0	0	1,551	1,582	1,618	1,653	1,711	8,115	
Operations & Maintenance, AF, BA-2	0	0	0	1,000	1,019	1,050	1,071	TBD	TBD	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0401119F C-5 Airlift Squadrons	
(U) D. Schedule Profile		
(U) Real-Time Information in the Cockpit	FY 1996 2 3 4 1 2 3 4	
(U) AWFCS Reliability Improvement Program		
Pas	Page 5 of 17 Pages Exhibit R-2	2

RDT&E BUDGET ITEM JUS	STIFICA	TION S	TIFICATION SHEET (R-2 Exhibit)	-2 Exhit	oit)		DATE N	March 1996	9
BUDGET ACTIVITY		PE NI	PE NUMBER AND TITLE	TITLE					2
7 - Operational System Development		040	0401119F C-5 Airlift Squadrons	C-5 Airlif	t Squadr	ons			
PROJECT NO. AND NAME 4377 Real-Time In The Cockpit (RTIC)									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
4377 Real-Time In The Cockpit (RTIC)	0	0	672	0	0	0	0	0	672

(U) A. Mission Description and Budget Item Justification:

The AMC Airlift and Air Refueling Mission Area Plans identify a deficiency in ability to protect aircraft from hostilities during combat operations. RTIC resolves intelligence information. Strategic mobility aircrews often fly extended missions or transit enroute stations without full intelligence update capability. Information that RTIC will be "snapped-on" to any AMC mobility fleet aircraft as needed. These systems are intended to be interchangeable between KC-135, KC-10, C-141, C-5, and C-17 aircraft, as required. This project is a FY97 new start modifying previously developed intelligence communication and display equipment to meet aircrews to make mission modifications to avoid enemy threats under rapidly changing combat conditions. To limit system implementation costs, it is envisioned this deficiency and increases aircrew survivability by providing aircrews with portable, on-aircraft, mission equipment to receive and display critical, real-time AMC requirements. This project is a low technical risk effort supporting fielded weapons systems and, therefore, is assigned to Budget Activity, Operational provided prior to mission departure is often outdated or incomplete upon arrival in theater. RTIC provides increased threat situational awareness and enables Systems Development.

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=xhihit R-2







March 1996 DATE 0401119F C-5 Airlift Squadrons RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE Develop equipment for demonstration of new capabilities Cost and Operational Effectiveness Analysis (COEA) Retrofit current prototypes to final configuration Qualification/certification testing 7 - Operational System Development 4377 Real-Time In The Cockpit (RTIC) Engineering studies Mission support N/A Total N/A Total PROJECT NO. AND NAME (U) FY 1995 (U) \$0 1 (U) \$0 (U) FY 1997 BUDGET ACTIVITY (U) \$65 (U) \$672 (U) \$224 (U) \$195 (U) \$50 (U) \$50 (U) \$88

1604

Page 7 of 17 Pages

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (F	3-2 Exhibit		DATE March 1996	
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0401119F C-5	नगाट C-5 Airlift Squadrons	Squadrons		
PROJECT NO. AND NAME 4377 Real-Time In The Cockpit (RTIC)					
(U) B. Program Change Summary (\$ in Thousands)				Total	
	FY 1995	FY 1996	FY 1997	Cost	
(U) Previous President's Budget (U) Appropriated Value	0 0	0 0	793 0	793	
(U) Adjustments to Appropriated Value	0	0	0	0	
c. Omnibus or Other Above Threshold Reprogram					
d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FV96 PB			-121	-121	•
	0	0	672	672	
	200 O of 17 Decen			6 0 11111	
	rake o of 17 rakes			exiligit 6-2	
	1705				





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RDI &E BUDGET ILEM JUSTI	4 S	PE NUN	PE NUMBER AND TITLE	TITLE A INIGE	Aidift Canadrone		Z	March 1996	
 / - Operational System Development PROJECT NO. AND NAME 4377 Real-Time In The Cockpit (RTIC) 		2			Odaga Odaga Odaga	2			
(U) Change Summary Explanation:									
Funding: Adjustment for updated OSD inflation rates.									
Schedule: New program start									
Technical: N/A									
(U) C. Other Program Funding Summary (\$ in Thousands)									
	FY 1995	FY 1996	Total Prior to FY 1995	FY 1999	FY 2000	FY 2001	To Compl	Total Cost	
(U) <u>PE# 040119F/C-5 Squadrons</u> Aircraft Procurement, AF, BA-7 Other Production Charges	0 0	0 0	0 0	1,582 0	1,618	1,654	1,712 0	8,117	
(U) <u>PE# 0401218F/KC-135 Squadrons</u> RDT&E, AF, BA-7 Aircraft Procurement, AF, BA-7 Operations & Maintenance, AF, BA-2	000	000	757 0 0	0 1,582 1,019	0 1,618 1,050	0 1,653 1,071	0 1,711 TBD	757 8,115 TBD	
(U) D. Schedule Profile		i	,		, ,	5			
(U) Program Start		2 3 E	3 4	1 2	3 4	1 1	ω 8	4	
		Page 9 of 17 Pages	7 Papes				Exhibit R-2	2	

RDT&E PR	RDT&E PROGRAM ELEMENT/P	EMENT/	ROJECT	COST BREAKDOWN (R-3)	CDOWN (R-3	a	DATE	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development	Developmer	=		PE NUMBER AND TITLE 0401119F C-5	TITLE C-5 Airlift Squadrons	adrons			
PROJECT NO. AND NAME 4377 Real-Time In The Cockpit (RTIC)	ckpit (RTIC)								
(U) A. Project Cost Breakdown (\$ in Thousands)	wn (\$ in Thouse	(spur			·		: :		
			FY 1995	5 FY 1996	FY 1997				
 (U) Cost and Operational Effectiveness Analysis (COEA) (U) Retrofit current prototypes to final configuration (U) Develop prototypes for demonstration of new capabilities (U) Engineering studies (U) Qualification/Certification testing (U) Mission support (U) Total 	ctiveness Analysis to final configur monstration of ne testing	s (COEA) ation w capabilities			50 195 224 50 88 65 672				
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	istory and Plann	ing Informati	on (\$ in Thousa	(spu					
Performing Organizations: Contracting office (SPO) and contractor not yet selected	ontracting office	(SPO) and con	tractor not yet se	lected.					
Contractor or Contract Government Method/Typ Performing e or Funding Activity Vehicle	7p Award or ng Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total Program
Product Development Organizations ESC	tions								-
Support and Management Organizations TBD	<u>nizations</u>								
Test and Evaluation Organizations AFOTEC	suo								
			Pas	Page 10 of 17 Pages			Exhibit R-3	. R-3	
				1607					





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0401119F C-5 Airlift Squadrons	
PROJECT NO. AND NAME		
4495 AWFCS Reliability Improvement Program		

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
4495 AWFCS Reliability Improvement Program	0	0	481	3,533	1,831	0	0	0	5,845

(U) A. Mission Description and Budget Item Justification:

within five years. The modification acquisition strategy for the program is to establish a single integrating contractor to modify and qualify individual Commercial flight control system and replaces aging mechanical instruments in the engine and flight systems. Current trends indicate some components will be unsupportable The C-5 All Weather Flight Control System (AWFCS) Reliability Improvement Program replaces low reliability Line Replaceable Units (LRUs) in the automatic Off-The-Shelf (COTS) LRUs and software to meet C-5 performance requirements, update existing C-5 engineering and technical data, develop interface control specifications based on performance requirements, prototype the new system, and support ground and flight testing.

- (U) FY 1995 **\$** (D)
- N/A Total
- N/A Total FY 1996 (U) \$ (U) \$0 3
- FY 1997 (U) \$446 (U) \$35 (U) \$481 3
- Contractor technical support
 - Mission support Total

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Exhibit R-2

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RDT&E BUDGET ITEM JUSTIFICATION	N SHEET (F	SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0401119F C-5		Airlift Squadrons	
PROJECT NO. AND NAME 4495 AWFCS Reliability Improvement Program				
(U) B. Program Change Summary (\$ in Thousands)				
	FV 1995	FV 1996	FV 1997	Total Cost
(U) Previous President's Budget	0	0	0	0
	0	0 (0	0
(U) Adjustments to Appropriated Value (U) Adjustments to Appropriated Value	0	0	0	- 0
	0	0	0	0
b. SBIR	0	0	0	0
c. Omnibus or Other Above Threshold Reprogram	0 0	0 0	0	o (
d. Below Intesnold Reprogramming (U) Adjustments to Budget Years Since FY96 PB	0	0	481	5845
(U) Current Budget Submit/President's Budget	0	0	481	5845
(U) Change Summary Explanation:				
Funding: New program start (\$496) less \$15 adjustment for updated OSD inflation rates.	OSD inflation rat	es.		
Schedule: New program start				
Technical: N/A				
Page	Page 12 of 17 Pages			Exhibit R-2





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FICATI	ON SHE	ET (R-;	2 Exhibi	t)	_	DATE M.	March 1996	
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND 0401119F	B _	ne -5 Airlift	TITLE C-5 Airlift Squadrons	ns			
PROJECT NO. AND NAME 4495 AWFCS Reliability Improvement Program									
(U) C. Other Program Funding Summary (\$ in Thousands)	·					• • •	Ę	Totel	
	FY 1995 E	FY 1996]	Total Prior to FY 1995	FY 1999	FY 2000	FY 2001	Compl	Cost	····
(U) <u>PE# 040119F/C-5 Squadrons</u> Aircraft Procurement, AF, BA-7 Other Production Charges	00	0 0	00	00	0 43,500	0 40,900	0 172,700	0 257,100	
(U) D. Schedule Profile									
(U) Acquisition Strategy (U) Draft RFP (U) Final RFP (U) Installation Start (FY02/3) (U) Installation Complete (FY08/2)	-	2 3 4 2 3 4 4 3 4 4 4 4 4 4 4 4 4 4 4 4	969	4	FY 1997 3 4	L14	~ ×	ω × 4 ×	
	R	Page 13 of 17 Pages	Pares				Exhibit R-2	7-7	

R	RDT&E PROGRAM ELEMENT/PROJECT	GRAM EI	EMENT/	PROJECT		COST BREAKDOWN (R-3)	3)	DATE	March 1996	6
BUDGET ACTIVITY 7 - Operational System Development	al System D	evelopmen	ī		PE NUMBER AND TITLE 0401119F C-5	PE NUMBER AND TITLE O401119F C-5 Airlift Squadrons	ıadrons			
PROJECT NO. AND NAME 4495 AWFCS Reliability Improvement Program	JAME Reliability Impr	ovement Pro	gram							
(U) A. Project Cost Breakdown (\$ in Thousands)	ost Breakdown	ı (\$ in Thousa	(spu							
				FY 1995	95 FY 1996	<u>6</u> <u>FY 1997</u>				
(U) Contractor technical support (U) Mission support	thnical support					446				
(U) Total						481				
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	equisition Histo	ry and Planni	ng Informatic	n (\$ in Thous	ands)					
Performing Organizations:	nizations:									
Contractor or Government Performing <u>Activity</u> TBD	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office EAC	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total Program
Product Development Organizations SA-ALC/LA	ent Organization	SI								
Support and Management Organizations SA-ALC/LA	gement Organiza	tions								
Test and Evaluation Organizations AFOTEC	n Organizations									
				Pa	Pape 14 of 17 Papes			Exhibit R-3	د ع	
					1611					





RDT&E PROGRAM ELEMENT/PROJECT (/PROJECT COST BREAKDOWN (R-3)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0401119F C-5 Airlift Squadrons	
PROJECT NO. AND NAME		
4495 AWFCS Reliability Improvement Program		

(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)

Government Furnished Property:

Total Prior to FY 1995 Delivery <u>Date</u> Award or Obligation <u>Date</u> Description Item

Budget FY 1995

Budget FY 1996

Budget to Complete Budget FY 1997

Program Total

Support and Management Property

Product Development Property N/A

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Exhibit R-3

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION S	HEET (R	1-2 Exhit	it)		DATE	March 1996	9
BUDGET ACTIVITY		PE N	PE NUMBER AND TITLE	TITLE					
7 - Operational System Development		040	01119F	0401119F C-5 Airlift Squadrons	t Squadr	ons			
PROJECT NO. AND NAME 4523 CRAF Enhancement Study									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
4523 CRAF Enhancement Study	0	5,000	0	0	0	0	0	0	5,000

(U) A. Mission Description and Budget Item Justification:

Following the C-17 DAB, USD(A&T) chartered a study effort to "Examine ways to strengthen the Civil Reserve Air Fleet (CRAF)" by exploring options such as lengthening contracts and considering ways to encourage CRAF providers to use more militarily capable aircraft. A new project was established in the C-5 Airlift reprogramming, but the CRAF study will be completed within existing resources. Therefore, funds were sourced for modifying Air Force Plant 3, Tulsa, OK as Squadron program element to accomplish this study. \$5M was put in this PE and BPAC in the Air Force database in anticipation of the above-threshold authorized by section 2307 of the Defense Authorization Act. The database will be corrected at the next available opportunity.

- (U) FY 1995 (\$ in Thousands):
- N/A Total **\$ 8** (3)
- (U) FY 1996 (\$ in Thousands):

 - N/A Total (U) \$ (U) \$5,000
- (U) FY 1997 (\$ in Thousands):
 - N/A Total **\$ 8** (3) (3)

Page 17 of 17 Pages





RDT&E BUDGET ITEM JUSTIFICATION	JSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0401214F Air Cargo Materiel Handling (463L	1 (463L)

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	0	0	3,212	8,420	841	529	0	0	54,879
5120 60K Pound Capacity Aircraft Loader	0	0	592	404	314	0	0	0	43,187
5150 Small High Reach Aircraft Loader	0	0	2,620	8,016	527	529	0	0	11,692

(U) A. Mission Description and Budget Item Justification

Civil Reserve Aircraft Fleet (CRAF) and more importantly will have the enhanced capability to reach and directly interface with wide body aircraft (WBA) which the 40K Wide Body Elevator Loaders (WBEL), a stationary transfer platform currently used in conjunction with 40K and 25K loaders to service WBA. Starting in FY97, the 60K number of smaller, but vital, peacetime and contingency airfields. The fielding of the 60K and small high reach loaders will also eliminate the requirement for a fleet of developing, and fielding of two aircraft cargo loader types which will eliminate critical existing loader deficiencies and will provide the Air Force with a flexible balance does not possess. The small high reach loader with WBA capability complements the 60K capability by providing greater deployability and cargo handling capacity at a funding of production units. This PE is in Budget Activity 7, Operational System Development since it involves the acquisition of two items to support fielded mobility of large and small loader capability for the future. The 60K will replace the 40K loader as the strategic aerial port workhorse servicing all cargo military aircraft and This Program Element contains two projects integral to the Air Force's ability to mobilize forces and equipment worldwide. The two projects involve testing, procurement funding. The RDT&E efforts of the small high reach loader have also been aligned to this Program Element which likewise includes the procurement RDT&E funding has been realigned from PE 0604704F, Common Support Equipment Development, into this Program Element which also contains the 60K aircraft; neither requires significant additional development.

(U) Acquisition Strategy:

The 60K loader program incorporated an approach whereas two manufacturers built two prototypes with a "drive-off" competition, operational assessment and a down select production contract awarded to one manufacturer. The 60K program aligns into this Program Element after IOT&E with minimal further development anticipated. Program office is currently in the process of developing the definitive acquisition plan for the Small High Reach Loader program.

Page 1 of 10 Pages

Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R	-2 Exhibit)		DATE	March 1006
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0401214F Air C	7 ππε Air Cardo Materiel Handling (463L)	iel Handling	(463L)	000
		,			
(U) B. Program Change Summary (\$ in Thousands)					
(U) Appropriated Value	FY 1996	FY 1997	Total <u>Cost</u>		
 (U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram 					
d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1996 PB		3,212			
(U) Current Budget Submit/President's Budget		3,212			
(U) Change Summary Explanation: From the Coader is a new start in FY97. The 60K Loader realigned from PE 0604704F beginning in FY97.	C Loader realigned	from PE 0604704F t	eginning in FY9′	7.	
Schedule: No impact to programs					
Technical: No impact to programs					
(U) C. Other Program Funding Summary (\$ in Thousands)					
(U) OPERATIONS & MAINTENANCE	FY 1997 FY 1998 40,296 50,517	FY 1999 FY 2000 89,761 91,379	90 <u>FY 2001</u> 9 63,454 312	To Compl TBD TBD	Total Cost TBD TBD
(U) D. Schedule Profile : See each Project					
Pare	Page 2 of 10 Pages		;	Exhibit R-2	





March 1996 0401214F Air Cargo Materiel Handling (463L) RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 7 - Operational System Development PROJECT NO. AND NAME BUDGET ACTIVITY

5120 60K Pound Capacity Aircraft Loader

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
5120 60K Pound Capacity Aircraft Loader	0	0	592	404	314	0	0	0	43,187

(U) A. Mission Description and Budget Item Justification

unique loader to on/off load various aircraft like the C-17, C-5, C-141, C-130, C-27, KC-10, and Civil Reserve Air Fleet (CRAF) aircraft while combining the capabilities loading vehicle capable of moving a type V airdrop platform carrying a full 60,000 pounds required by the US Army. The 60K loader will be significantly more reliable transporter/loader to fulfill the requirement of Air Mobility Command's (AMC's) Operational Requirements Document (ORD) 002-89-1. The project provides a single, of the 40K, wide-body elevator, and lower lobe loaders. The 60K loader will be driven on/off of the C-17, C-5, and C-141 aircraft without shoring and will be the only with a 100 hours mean time between failure (MTBF) versus the 40K loader's 18 hours MTBF. Major reductions from 30 man-hours to 3 man-hours in deployment Project 653852, 60,000 (60K) Pound Capacity Aircraft Transporter Loader: This project completes the development of the 60,000 pound capacity aircraft preparation times will be made.

- (U) FY 1995 (\$ in Thousands): Not Applicable*
- (U) FY 1996 (\$ in Thousands): Not Applicable*
- (U) FY 1997 (\$ in Thousands):
- Research ECPs (E)
- Continue contracted advisory and assistance services and program management support
 - (U) \$548 (U) \$592
- * FY 94/95/96 efforts were funded in PE 0604704F, Common Support Equipment Dev

(U) B. Program Change Summary (\$ in Thousands)

Exhibit R-2

Page 3 of 10 Pages

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FICATIO	N SHE	ET (R-:	2 Exhib	 ≘		рате Ма го	March 1996
BUDGET ACTIVITY 7 - Operational System Development		PE NUMB 04012	PE NUMBER AND TITLE 0401214F Air C	∟E · Cargo N	Materiel I	PE NUMBER AND TITLE OF MATERIEL HANDLING (463L)	(463L)	
PROJECT NO. AND NAME 5120 60K Pound Capacity Aircraft Loader	:							
 (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/President's Budget 	FY 1995	FY 1996		FY 1997 +592 592	Total Cost	Ta 10		
 (U) Change Summary Explanation: Funding: The FY97 funds are a result of realignment of the Other Procurement funding for the 60K loader. Schedule: No impact to progam Technical: No impact to program 	60K loader p	roject fror	n PE 0604'	704F, Comr	non Suppor	t Equip Dev,	the 60K loader project from PE 0604704F, Common Support Equip Dev, into this PE which contains	hich contains
(U) C. Other Program Funding Summary (\$ in Thousands) FY 1995 FY	FY 1996 FY 42,336 4	FY 1997 F	FY 1998 50,517	FY 1999 59,660	FY 2000 60,562	FY 2001 31,652	To Compl TBD	Total <u>Cost</u> TBD
	Рав	Page 4 of 10 Pages	ages				Exhibit R-2	





1996							
DATE March 1996	(463L)						Exhibit R-2
	landling			4			
(1)	ateriel H			FY 1997 2 3			
Exhibit	элте Air Cargo Materiel Handling (463L)			-		,	; ;
RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)				3 4 X			pages .
N SHE	PE NUMBER AN 0401214F			EY 1996 2 3 X X			Pare 5 of 10 Pares
ICATIO				4 1 X			Pa
JUSTIF				FY 1995 2 3			
T ITEM	nent	ıder		1 2		ż	
3UDGE	Jevelopr	ircraft Loa		ecision			
DT&E	System [E apacity A	file	ed IOT&E oduction D			
m	вирдет астічіту 7 - Operational System Development	PROJECT NO. AND NAME 5120 60K Pound Capacity Aircraft Loader	(U) D. Schedule Profile	(U) Complete Dedicated IOT&E(U) DAC Full Rate Production Decision(U) IOC			
	BUDGET ACTIVITY 7 - Operation	PROJECT NO 5120 60K	(U) D. <u>Sc</u>	(U) Comp (U) DACI (U) 10C			

RDT&E PROGRAM ELEMENT/PROJECT	PROJECT COST BREAKDOWN (R-3)	DATE March 1006
ystem Development	PE NUMBER AND TITLE 0401214F Air Cargo Materiel Handling (463L)	(463L)
PROJECT NO. AND NAME 5120 60K Pound Capacity Aircraft Loader		
(U) A. Project Cost Breakdown (\$ in Thousands)		
(U) Research ECPs(U) Advisory and assistance services and program mgmt spt(U) Total	EY 1996 FY 1997 44 548 592	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	(sp	
Performing Organizations:		
Product Development Organizations - AFMC		
Support and Management Organizations - AMC		
Test and Evaluation Organizations - AFOTEC		
(U) B. <u>Budget Acquisition History and Planning Information Continued (\$ in Thousands)</u>	n Thousands)	
Government Furnished Property: NOT APPLICABLE		
Pag	Page 6 of 10 Pages	Exhibit R-3





RDT&E BUDGET ITEM JUSTIFICATION	JSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0401214F Air Cargo Materiel Handling (463)	g (463L)
DEC IECT NO AND NAME		

TACSECT NO. AND NAME

5150 Small High Reach Aircraft Loader

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
Small High Reach Aircraft Loader	0	0	2,620	8,016	527	529	0	0	11,692

(U) A. Mission Description and Budget Item Justification

5150

This small loader (25-35K capacity) program supports the acquisition and delivery of a loader that will eventually, along with the 60K loader, form the backbone of the Global Reach airlift 463L system. The small loader program, procuring 300 units, will likewise contribute to the modernization of the 463L system.

contingencies/relief missions. Compounding the ineffectiveness of the current mix of aircraft cargo loader fleet is the overage condition, low reliability, and high cost The critical shortcoming of the current Air Force cargo handling system is the lack of sufficient vertical reach of both the large (40K) and small (25K) capacity loaders to directly interface with KC-10 and commercial wide-body aircraft (WBA), such as the B-747, DC-10, and B-767. Increased reliance on USAF and Civil Reserve Air Fleet WBA makes these shortcomings critical. A separate elevator/transfer platform is currently necessary to allow the existing loader fleet to service to maintain. Upgrading the fleet with this new small loader with WBA capability to complement the 60K loader will correct critical high reach shortcomings and WBA, which is not an effective nor efficient load operation and results in a very timely, cumbersome, and costly method of deployment to meet worldwide result in a well-balanced, flexible loader fleet to ensure the Air Force's ability to meet global mobility commitments.

Program office is currently in the process of developing the definitive acquisition plan for the small loader.

- (U) FY 1995 (\$ in Thousands): Not Applicable
- (U) FY 1996 (\$ in Thousands): Not Applicable
- (U) FY 1997 (\$ in Thousands):
- Acquire test articles (U) \$2,400
- Provide program management support (U) \$220
 - Total (U) \$2,620

(U) B. Program Change Summary (\$ in Thousands)

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Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ICATION SHEE	T (R-2 Exhi	bit)	DATE		March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBE 040121	PE NUMBER AND TITLE 0401214F Air Cargo Materiel Handling (463L)	Materiel Ha	ndling (4	(93F)	
PROJECT NO. AND NAME 5150 Small High Reach Aircraft Loader					: N 10 10 10 10	
 (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong Gen Reductions 	FY 1995 FY 1996 0 0 0 0 0 0	FY 1997	Total <u>Cost</u>			
 b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/President's Budget 		+2,620				
(U) Change Summary Explanation: Funding: New Start in FY97						
Schedule: No impact to program						
Technical: No impact to program						
(U) C. Other Program Funding Summary (\$ in Thousands)						
(U) OTHER PROCUREMENT, VEHICLES (U) OPERATIONS & MAINTENANCE	FY 1996 FY 1997 FY 0 0	FY 1998 F 1999 0 30,101	FY 2000 FY 30,817 3	FY 2001 31,802 312	To Compl TBD TBD	Total <u>Cost</u> TBD TBD
(U) D. Schedule Profile						
	Page 8 of 10 Pages	ges		ú	Exhibit R-2	
	1621					





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-2 Exhibit) DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0401214F Air Cargo Materiel Handling (463L)
PROJECT NO. AND NAME 5150 Small High Reach Aircraft Loader	
FY 1995 (U) Contract Award (U) Tests	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
	Pare 9 of 10 Pares

RDT&E PROGRAM ELEMENT/PROJE	/PROJECT COST BREAKDOWN (R-3)	WN (R-3)	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0401214F Air Ca	PE NUMBER AND TITLE OA01214F Air Cargo Materiel Handling (463L)	ling (463L)	
PROJECT NO. AND NAME 5150 Small High Reach Aircraft Loader				
(U) A. Project Cost Breakdown (\$ in Thousands)				
EI .	FY 1995 FY 1996	FY 1997		,
(U) Acquire test articles(U) Provide management support(U) Total		2,400 220 2,620		
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	onsands)			
Performing Organizations:				
Contractor or Contract Government Method/Type Award or Performing Project Performing or Funding Obligation Activity Office Activity Vehicle Date EAC EAC TBD Nov/Dec 96	Total Prior to Budget FY 1995 FY 1995	Budget Budget FY 1996 FY 1997 0 2620	Budget to Complete TBD	Total <u>Program</u> <u>TBD</u>
Product Development Organizations - AFMC				
Support and Management Organizations - AMC				
Test and Evaluation Organizations - AFOTEC				
(U) B. Budget Acquisition History and Planning Information Continu	ion Continued (\$ in Thousands)			
Government Furnished Property: NOT APPLICABLE				

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Exhibit R-3





	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICAL	ION SE	HEET (R	-2 Exhik	oit)		DATE	March 1996	9
BUDG 7-C	вирает астіvіту 7 - Operational System Development		PE NL 040	PE NUMBER AND TITLE 0401218F KC-1	PE NUMBER AND TITLE 0401218F KC-135 Squadrons	quadrons	,0			
	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
	Total Program Element (PE) Cost	19,749	12,056	757	0	0	696	0	0	33,521
2214	2214 Improved Aerial Refueling Systems (IARS)	4,958	0	0	0	0	0	0	0	4,958
4285	4285 Receptacle Modification	176	0	0	0	0	0	0	0	176
4286	4286 Multipoint Modification	14,615	12,056	0	0	0	0	0	0	26,671
4403	4403 Real-Time Information in the Cockpit (RTIC)	0	0	757	0	0	0	0	0	757

(U) A. Mission Description and Budget Item Justification

929

0

959

0

Real-Time Information in the Cockpit (RTIC)

4403

KC-135 Economic Life Study

4494

aircraft corrosion and fatigue project -- CORAL REACH. CORAL REACH results provide accurate data for the KC-135 Economic Life Study (Project 4494) planned established by SAC Statement of Need (SON) 001-87, identifies and investigates KC-135 refueling system deficiencies. The IARS activity also supports the aging for FY00. Operational users prioritize each year's activities so the most serious deficiencies are addressed. This project is comprised of low technical risk efforts 2214: Improved Air Refueling System (IARS): The IARS program funds research and development to improve the KC-135 aerial refueling fleet. This program, supporting a fielded weapon system and, therefore, is assigned to Budget Activity, Operational Systems Development.

4285; Receptacle Modification: The Receptacle Modification requirement was eliminated by the using command. The majority of FY95 funds were sourced in the FY95 Omnibus reprogramming. The remainder of the FY95 funds were used for contractor support.

refueling of probe-equipped and receptacle-equipped receiver aircraft during a single mission (not simultaneously). This requirement was established by Air Mobility Command (AMC) Mission Need Statement 003-92 and AMC Operational Requirements Document 003-92-I/II. The project is a low technical risk effort supporting independent refueling of two, probe-equipped, receiver aircraft. These systems provide enhanced reliability and efficiency for probe/drogue refueling and permits 4286: Multipoint Modification: Multipoint enhances interoperability with the Navy, the Marines, NATO, and other Allied nations. It permits simultaneous and a fielded weapon system and, therefore, is assigned to Budget Activity, Operational Systems Development.

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Exhibit R-2

March 1996 DATE 0401218F KC-135 Squadrons RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 7 - Operational System Development

modify and integrate on the KC-135 previously developed intelligence communication and display equipment to meet AMC requirements. This endeavor consists of 4403: Real-Time Information in the Cockpit (RTIC): The AMC Airlift and Air Refueling Mission Area Plans identify a deficiency in ability to protect aircraft from conditions. To limit system implementation costs, it is envisioned that RTIC will be "snapped-on" to any AMC mobility fleet aircraft when this capability is needed. hostilities during combat operations. RTIC addresses this deficiency and increases air crew survivability by providing aircrews with portable, on-aircraft, mission These systems are intended to be transformed between KC-135, KC-10, C-141, C-5, and C-17 operational wings, as required. This project is a FY97 new start to equipment to receive and display critical, real-time intelligence information. Strategic mobility aircrews often fly extended missions or transit enroute stations without full intelligence information capability. Information provided prior to mission departure is often outdated or incomplete upon arrival in theater. RTIC provides increased threat situational awareness thus enabling aircrews to make mission modifications to avoid enemy threats under rapidly changing combat low technical risk efforts supporting fielded weapons systems and, therefore, is assigned to Budget Activity, Operational Systems Development.

benefit analyses to support a Cost and Operational Effectiveness Analysis (COEA). The COEA addresses replacement schedules for the KC-135 based on economic decision points. The study will include the effects of aircraft aging, to include corrosion, fatigue, and stress corrosion cracking resulting from the CORAL REACH 4494: KC-135 Economic Life Study: The KC-135 Economic Service Life Study consists of studies for structure, systems, and component support as well as cost Aging Aircraft Project. This effort is a low technical risk effort supporting a fielded weapon system and, therefore is assigned to Budget Activity, Operational Systems Development.

(U) Acquisition Strategy:

ranging from fixed price to cost plus contracts. These task orders address a myriad of individual deficiencies against existing contract vehicles, such as the SPO-2214: Improved Air Refueling System (IARS): The acquisition strategy for IARS consists primarily of separate task orders (with separate statements of work) managed KC-135 Fleet Support Contract and Design Engineering Program contracts managed through the Air Logistics Centers.

4286: Multipoint Modification: The acquisition strategy for the Multipoint Modification employed open competition for a fixed price, Multipoint wing pod procurement. The Air Force is currently evaluating the Navy's refueling requirement to determine final procurement quantity. 4403: Real-Time Information in the Cockpit (RTIC): The intended acquisition strategy for RTIC is to reutilize software and non-developmental hardware already prototyped in a competitive, fixed-price, contract award environment. 4494: KC-135 Economic Life Study: The acquisition strategy for the KC-135 Economic Life Study is not available at this time--it is a new program start in FY00.

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RDT&E BUDGET ITEM JUSTIFICA	TION SHEET	TIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0401218F KC-1	D401218F KC-135 Squadrons	drons	
(U) B. Program Change Summary (\$ in Thousands)			Total	
FY 1995	Ľ .	FY 1997	Cost	
(U) Previous President's Budget 23,006	306 12,727	793	cont	
ropriated Value				
a. Cong/Gen Reduction	-254 -247			
b. SBIR	485 -294			
c. Omnibus or Other Above Threshold Reprogram -2,	-2,570 -130			
d. Below Threshold Reprogram	202			
)B	0 0	-36		
	19,749 12,056		cont	

(U) Change Summary Explanation:

funds are for RTIC, an FY97 new program start. The following changes are not incorporated into the database: FY95 funding for IARS increased by \$2,511K via Funding: FY97 funds for RTIC have been reduced \$36K for RDT&E reduction, O&M reduction, and non-pay inflation activities. FY96 reductions of \$671K due to SBIR, Economic and Overhead/Improved Management Reductions, and Bosnia I bills. FY96 PB eliminated funding for IARS in FY96/97. Remaining FY97 reprogramming from Open Skies.

This restriction was deleted in FY95. Multipoint request for proposal released 2QFY95. Contract awarded 28 Sep 95. RDT&E phase scheduled to complete Schedule: Receptacle/multipoint execution delayed until 4QFY95 due to a Congressional restriction on obligation of funds and evolving Air Force priorities.

Technical: N/A

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Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ITEM JUS	TIFICAL	TION SH	IEET (R	-2 Exhit	tic		DATE	Moroh 1006	
BUDGET ACTIVITY 7 - Operational System Development	ent		PE NU 040	PE NUMBER AND TITLE 0401218F KC-1	тт.е С-135 Sq	PE NUMBER AND TITLE 0401218F KC-135 Squadrons			1930	
(U) C. Other Program Funding Summary (\$ in Thousands)	in Thousands)									
(U) PE# 0401218F/KC-135 Squadrons	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	To Compi	Total Cost	
(U) Aucraft Procurement, AF, BA-7 KC-135 Mods, Multipoint (I) Aircraft Procurement AF BA 7	0	12,200	21,600	22,300	20,300	40,300	40,800	17,200	177,900	
Other Production Charges, RTIC	0	0	0	1,551	1,582	1,618	1,653	1,711	8,115	
Mobilization, RTIC	0	0	0	1,000	1,019	1,050	1,071	TBD	TBD	
(U) <u>PE# 0401119F/C-5 Squadrons</u> Aircraft Procurement, AF, BA-7 Other Production Charges, RTIC	0	0	0	1,551	1,582	1,618	1,654	1,712	8,117	
(U) PE# 0401119F/C-5 Squadrons RDT&E, AF, BA-7	0	0	672	0	0	0	0	0	672	
Operational Systems Development, RTIC (U) D. Schedule Profile (U) Improved Air Refueling System (IARS) (U) Receptacle Modification (U) Multipoint Modification (U) Real-Time Information in the Cockpit (U) RC-135 Economic Life Study	FY 1995	. 4	FY 1996 1 2 3	FY 1996 2 3	4	FY 1997 2 3	<u>77</u> 8	Exhibit R-2	Q	
			1627							



March 1996 DATE 0401218F KC-135 Squadrons RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 2214 Improved Aerial Refueling Systems (IARS) 7 - Operational System Development PROJECT NO. AND NAME BUDGET ACTIVITY

(U) A. Mission Description and Budget Item Justification (\$ in Thousands)

4,958

Total Cost

Cost to Complete

FY 2001 Estimate

FY 2000 Estimate

FY 1999 Estimate

FY 1998 Estimate

FY 1997 Estimate

FY 1996 Estimate

FY 1995 Actual

COST (\$ In Thousands)

2214 Improved Aerial Refueling Systems (IARS)

0

4,958

Economic Life Study (Project 4494) planned for FY00. Operational users prioritize each year's activities so the most serious deficiencies are addressed. This project IARS activity includes support for the aging aircraft corrosion and fatigue project -- CORAL REACH. CORAL REACH results provide accurate data for the KC-135 established by SAC Statement of Need (SON) 001-87, identifies and investigates system refueling deficiencies to improve refueling capability and procedures. The is comprised of low technical risk efforts supporting a fielded weapon system and, therefore, is assigned to Budget Activity, Operational Systems Development. The Improved Aerial Refueling Systems (IARS) program funds research and development to improve the KC-135 aerial refueling fleet. The IARS program,

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Exhibit R-2

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		RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE March 1996
BUD 7.	вирдет Астіміту 7 - Operationa	вирдет Астіvіту 7 - Operational System Development	PE NUMBER AND TITLE 0401218F KC-135 Squadrons	
PRO 22	PROJECT NO. AND NAME 2214 Improved Aeri	PROJECT NO. AND NAME 2214 Improved Aerial Refueling Systems (IARS)		
	(U) EY 1995 (U) \$1,827 (U) (U) (U) (U) (U) (U) (U) (U) (U) (U)	Project CORAL REACH - Aging aircraft corrosion, fatigue, and supportability investigations Corrosion growth rate testing Development/testing of external corrosion preventative compound Methodology to quantify effects of corrosion for C/KC-135 Integrity testing of aging C/KC-135 aircraft functional systems PACER CRAG (Compass, Radar, And GPS) support activities Crew station evaluation of 2-man crew flying SIOP missions Dedicated PACER CRAG support Dedicated radar upgrade support Life-cycle cost study Avionics/crew systems supportability and replacement requirements development and evalt Improved boom nozzle prototype units for operational test on KC-135 Interphone trade study/cost analysis Mission support Mission support	orrosion, fatigue, and supportability investigations preventative compound ion for C/KC-135 aft functional systems) support activities /ing SIOP missions replacement requirements development and evaluations perational test on KC-135	
ı	(U) <u>FY 1996</u> (U) \$0	Total		
l	(U) <u>FY 1997</u> (U) \$0	Total		
				, i.i.
		Pag	rage 6 of 28 rages	EXIIIDIL N-2





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R	-2 Exhibit)		DATE Mar	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0401218F KC-1	PE NUMBER AND TITLE O401218F KC-135 Squadrons	rons		
PROJECT NO. AND NAME 2214 Improved Aerial Refueling Systems (IARS)					
(U) B. Program Change Summary (\$ in Thousands)			Total		
(U) Previous President's Budget 5,160	FY 1996 0	FY 1997 0	<u>Cost</u> 5,160		
iated Value					
a. Cong/Gen Reduction b. SBIR					
c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogram -202					
(U) Adjustments to Budget Years Since FY96 PB (U) Current Budget Submit/President's Budget 4,958	00	0 0	4,958		
(U) Change Summary Explanation:					
Funding: IARS not funded beyond FY95. IARS will be replaced by specific user projects and AMC initiatives identified during (The following change is not incorporated into the database: FY95 IARS increased by \$2,511K reprogramming from Open Skies.	cific user projects a increased by \$2,5	and AMC initiative 11K reprogrammir	es identified during ng from Open Skie	g development of s.	be replaced by specific user projects and AMC initiatives identified during development of the FY98 POM. sbase: FY95 IARS increased by \$2,511K reprogramming from Open Skies.
Schedule: Numerous projects in parallel, based on priority determination.	Ţ,				

Technical: N/A

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Exhibit R-2

RDT&E BUDGET ITEM JUSTII	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0401218F KC-135 Squadrons	
PROJECT NO. AND NAME 2214 Improved Aerial Refueling Systems (IARS)		
(U) C. Other Program Funding Summary (\$ in Thousands)		
(U) N/A	FY 1996 FY 1997 FY 1998 FY 1999 FY 2000 FY 2001	Compl Cost
Related RDT&E: (U) N/A		
(U) D. Schedule Profile		
(U) Improved Air Refueling System (IARS) Program Ends 4QFY96		2 3 4
	Page 8 of 28 Pages	Exhibit R-2
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RD	RDT&E PROGRAM ELEMENT/	RAM EL	EMENT/	PROJEC.	PROJECT COST BREAKDOWN (R-3)	REAKDC	WN (R-3)		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	System De	velopmer	=		PE NUMBER AND TITLE 0401218F KC-1	AND TITLE	DTITLE KC-135 Squadrons	ns			
PROJECT NO. AND NAME 2214 Improved Aerial Refueling Systems (IARS)	NME Verial Refuelin	g Systems ((IARS)								
(U) A. Project Cost Breakdown (\$ in Thousands)	t Breakdown (\$	in Thousanc	[5]	FY 1995		FY 1996	FY 1997				
 (U) Project CORAL REACH (U) PACER CRAG Support (U) Improved Boom Nozzle (U) Interphone Study (U) Mission Support (U) Miscellaneous 	Project CORAL REACH PACER CRAG Support Activities Improved Boom Nozzle Interphone Study Mission Support Miscellaneous	ies		2, 2,	1,827 2,309 125 120 517 60						
(U) Total				4,	4,958						
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	quisition Histor	y and Planni	ng Informatic	on (\$ in Thous	(spue						
Performing Organizations:	izations:										
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Com <u>plete</u>	Total <u>Program</u>	
Product Development Organizations Boeing Existing	ent Organizations Existing	⊗I	KC-135		0	1,760	Project ends	4QFY96	0	1,760	
Miscellaneous	Fleet Support		O.S.		2,061	2,182	Project ends	4QFY96	0	4,243	
Support and Management Organizations Miscellaneous	cement Organiza	tions			849	891	Project ends	4QFY96	0	1,740	
Test and Evaluation Organizations Miscellaneous	1 Organizations				150	125	Project ends	4QFY96	0	275	
					Page 9 of 28 Pages	ges			Exhibit R-3	7-3	
					1637						

RDT&E PROG	RDT&E PROGRAM ELEMENT/PROJEC	PROJECT COST BREAKDOWN (R-3)	REAKDO	WN (R-3		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	velopment	PE NUMBER AND TITLE 0401218F KC-1	AND TITLE SF KC-13	PE NUMBER AND TITLE 0401218F KC-135 Squadrons	ıns			
PROJECT NO. AND NAME 2214 Improved Aerial Refueling Systems (IARS)	g Systems (IARS)							
(U) B. Budget Acquisition History	(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	(\$ in Thousands						
Government Furnished Property:								•
Contract Method/Type Item or Funding Description Vehicle	Award or Obligation Delivery <u>Date</u> <u>Date</u>	Total Prior to <u>FY 1995</u>	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	· · ·
Product Development Property N/A Support and Management Property N/A Test and Evaluation Property N/A								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation								
Total Project								
		Page 10 of 28 Pages	Ses			Exhibit R-3	3-3	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICAT	TION SF	IEET (R	-2 Exhil	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development		PE NL 040	PE NUMBER AND TITLE 0401218F KC-1	пте (C-135 S (D TITLE KC-135 Squadrons	(0			
PROJECT NO. AND NAME 4285 Receptacle Modification									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
4285 Receptacle Modification	176	0	0	0	0	0	0	0	176
(U) A. <u>Mission Description and Budget Item Justification (\$ in Thousands)</u> The Receptacle Modification requirement was eliminated by the using command. The majority of FY95 funds were sourced in the FY95 Omnibus reprogramming. The remainder of the FY95 funds were used for contractor support.	\$ in Thousands) by the using com r support.	ids) command. ?	The majority	of FY95 fu	nds were sou	rrced in the	FY95 Omnil	bus reprogra	mming.
(U) <u>FY 1995</u> - (U) \$176 Contractor support - (U) \$176 Total									
(U) <u>FY 1996</u> - (U) \$0 Total									
(U) <u>FY 1997</u> - (U) \$0 Total									
		Pare 11 of 28 Pares	'28 Pages				Exhibit R-2	3-2	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R	-2 Exhib	Œ		DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0401218F KC-135 Squadrons	⊓∟E C-135 Sq	uadrons			
PROJECT NO. AND NAME 4285 Receptacle Modification						
(U) B. Program Change Summary (\$ in Thousands)		,	F			
(U) Previous President's Budget (U) Appropriated Value (II) Adjustments to Appropriated Value	FY 1996 0	$\frac{\text{FY } 1997}{0}$	10tal Cost 2,746			
-2 old Reprogram						
d. Delow 1 meshold keprogram (U) Adjustments to Budget Years Since FY96 PB (U) Current Budget Submit/President's Budget	0	0	176			
(U) Change Summary Explanation:						
Funding: The majority of FY95 receptacle funds were sourced in the FY95 Omnibus reprogramming.	795 Omnibus reprog	ramming.				
Schedule: N/A						
Technical: N/A						
(U) C. Other Program Funding Summary (\$ in Thousands)					É	Ē
(U) N/A	FY 1997 FY 1998	FY 1999	FY 2000 FY	FY 2001	Compl	Cost
Related RDT&E: (U) N/A						
					: :	
Pari	Page 12 of 28 Pages				Exhibit R-2	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	M JUSTIFICATIO	N SHEET (R-2	Exhibit)		DATE	March	March 1996	
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0401218F KC-1:	ртте KC-135 Squadrons	drons				I
PROJECT NO. AND NAME 4285 Receptacle Modification								1
(U) D. Schedule Profile	FY 1995	FY 1996 2 3 4	. 1	FY 1997		"	4	
(U) Program terminated	•)	1		1)		
								-
	Pa_5	Pare 13 of 28 Pares			Exhi	Exhibit R-2		
		1						

R	RDT&E PROGRAM ELEMENT	GRAM EI	EMENT/	PROJECT COST BREAKDOWN (R-3)	COSTB	REAKD	OWN (R-	3	DATE	March 1996	
BUDGET ACTIVITY 7 - Operation	JDGET ACTIVITY - Operational System Development	evelopme	nt		PE NUMBE 040121	PE NUMBER AND TITLE 0401218F KC-13	PE NUMBER AND TITLE 0401218F KC-135 Squadrons	ons			
PROJECT NO. AND NAME 4285 Receptacle Modification	NAME le Modificatior	-									
(U) A. Project Cost Breakdown (\$ in Thousands)	ost Breakdown	(\$ in Thousan	(Sp)	FY 1995		FY 1996	FY 1997				
(U) Contractor support (U) Total	pport				176 176						
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	cquisition Histo	ry and Planni	ng Informatio	on (\$ in Thousa	(Spu						
Performing Organizations:	nizations:										
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle N/A Product Development Organizations N/A	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 199 <u>6</u>	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Support and Management Organizations N/A	gement Organiza	ations									
Test and Evaluation Organizations N/A	on Organizations			•							
				Pa	Page 14 of 28 Pages	ses			Exhibit R-3	R-3	





RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)

BUDGET ACTIVITY

0401218F KC-135 Squadrons PE NUMBER AND TITLE

March 1996

DATE

7 - Operational System Development

PROJECT NO. AND NAME

4285 Receptacle Modification

(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)

Government Furnished Property:

Contract

Award or Method/Type

Obligation Date or Funding Vehicle

Delivery

Total Prior to FY 1995

Budget FY 1995

Budget FY 1997 Budget FY 1996

Total Program Budget to Complete

Product Development Property

Description Item

Support and Management Property

Test and Evaluation Property

Subtotal Support and Management Subtotal Product Development Subtotal Test and Evaluation

Total Project

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Exhibit R-3

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	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICAL	ION SE	HEET (R	-2 Exhit) E		DATE M	March 1996	9
BUDGET ACTIVITY 7 - Operationa	вирдет Астіуіту 7 - Operational System Development		PE NU 040	PE NUMBER AND TITLE 0401218F KC-1	PE NUMBER AND TITLE 0401218F KC-135 Squadrons	luadrons				
PROJECT NO. AND NAME 4286 Multipoint Modification	AME Modification									
	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
4286 Multipoint Modification	ification	14,615	12,056	0	0	0	0	0	0	26,671
(U) A. Mission D. The Multipoin independent re refueling of pr Command (AN a fielded weap requirement to	(U) A. <u>Mission Description and Budget Item Justification (\$ in Thousands)</u> The Multipoint Refueling System (MPRS) enhances interoperability with the Navy, the Marines, NATO, and other Allied nations. It permits simultaneous and independent refueling of two, probe-equipped, receiver aircraft. This system provides enhanced reliability and efficiency for probe/drogue refueling and permits refueling of probe-equipped and receptacle-equipped receiver aircraft during a single mission (not simultaneously). This requirement was established by Air Mobility Command (AMC) Mission Need Statement 003-92 and AMC Operational Requirements Document 003-92-I/II. This project is a low technical risk effort supporting a fielded weapon system and, therefore, is assigned to Budget Activity, Operational Systems Development. The Air Force is currently evaluating the Navy's refueling requirement to determine final procurement quantity.	\$ in Thousands) sperability with t craft. This syste ver aircraft durir MC Operational lget Activity, Op	th the Navy stem provicuring a sing nal Required Operational	, the Marine les enhance le mission (1 ments Docu Systems De	s, NATO, ar I reliability a tot simultane nent 003-92. evelopment.	nd other Alli nd efficienc sously). This p I/II. This p The Air For	ed nations. y for probe/o s requiremes roject is a lo ce is current	It permits si drogue refue nt was establ w technical	in Thousands) erability with the Navy, the Marines, NATO, and other Allied nations. It permits simultaneous and eath. This system provides enhanced reliability and efficiency for probe/drogue refueling and permits er aircraft during a single mission (not simultaneously). This requirement was established by Air Mobility IC Operational Requirements Document 003-92-I/II. This project is a low technical risk effort supporting et Activity, Operational Systems Development. The Air Force is currently evaluating the Navy's refueling	and mits r Mobility pporting i refueling
(U) <u>FY 1995</u> - (U) \$13,378 - (U) \$686 - (U) \$167 - (U) \$384 - (U) \$384	Engineering design, procurement, assembly Data Mission support Aircraft maintenance Total		on of MPRS	Group-A; F	& installation of MPRS Group-A; pod & pylon procurement of Group B	procuremen	t of Group B			
(U) <u>FY 1996</u> - (U) \$6,143 - (U) \$1,967 - (U) \$350 - (U) \$1,259 - (U) \$1,062 - (U) \$1,062 - (U) \$500 - (U) \$500 - (U) \$500 - (U) \$500 - (U) \$500	Engineering design, procurement, assembly & installation of M Test planning and support System Engineering and Technical Assistance (SETA) support ECO Mission support Aircraft maintenance GFP (MILSTRIP, GFE, fuel, and miscellaneous) Total	y & installation	on of MPRS support	Group-A; F	& installation of MPRS Group-A; pod & pylon procurement of Group B ce (SETA) support ous)	procuremen	t of Group B	_		



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Exhibit R-2



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R	-2 Exhibit)	DATE	те March 1996
вирает астіміту 7 - Operational System Development	PE NUMBER AND TITLE 0401218F KC-1	отпте KC-135 Squadrons	drons	
PROJECT NO. AND NAME 4286 Multipoint Modification				
(U) <u>FY 1997</u> – (U) \$0 Total				
(U) B. Program Change Summary (\$ in Thousands)			Total	
(U) Previous President's Budget 15,100 (U) Appropriated Value 15,100	FY 1996 12,727 12,727	FY 1997 0	Cost 27,827 15,100	
(U) Adjustments to Appropriated Value a. Cong/Gen Reduction b. SBIR c. Omnibus or Other Above Threshold Reprogram	-247 -294 -130			
ice FY96 PB t's Budget 14,61	12,056	0	26,671	
(U) Change Summary Explanation: Funding: FY96 reductions of \$671K due to SBIR, Economic and Overhead/Improved Management Reductions, and Bosnia I bills.	rhead/Improved Man	agement Reducti	ons, and Bosnia I bills.	
Schedule: Multipoint execution delayed until 4QFY95 due to a Congressional restriction on obligation of funds and evolving Air Force priorities. This restriction was deleted in FY95. Multipoint request for proposal released 2QFY95. Contract awarded 28 Sep 95. RDT&E phase scheduled to complete 4QFY97.	essional restriction o 5. Contract awarded	n obligation of fu 28 Sep 95. RDT	nds and evolving Air F '&E phase scheduled to	orce priorities. This restriction complete 4QFY97.
Technical: N/A				
$P_{\mathcal{C}}$	Page 17 of 28 Pages			Exhibit R-2

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	M JUSTII	FICATI	NO SH	EET (R	2 Exhil) (£)		DATE	March 1996	Г
BUDGET ACTIVITY 7 - Operational System Development			PE NUN 0401	PE NUMBER AND TITLE 0401218F KC-1	π∟E C-135 Sα	PE NUMBER AND TITLE 0401218F KC-135 Squadrons				
PROJECT NO. AND NAME 4286 Multipoint Modification										
(U) C. Other Program Funding Summary (\$ in Thousands)	[housands]							į		
(I) Aircraft Procurement, AF, BA-5	FY 1995 F	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	To Compl	Total Cost	
KC-135 Mods, MN-KC4231	0	12,200	21,600	22,300	20,300	40,300	40,800	17,200	177,900	,
Related RDT&E: (U) N/A										
(U) Round Table/Acquisition Panel X*	FY 1995 2 3	4	$\frac{\mathrm{FY}}{2}$	FY 1996 2 3	4	FY 1997 2 3	$\frac{7}{3}$ 4			
(U) Final RFP (U) Source Selection (U) Contract Award (U) Design/Build/Install	* *	* ×	×	×	×	××				
(U) Flight Test Complete (U) Flight Test Complete (U) Production Option Award (U) IOC (FY02/4)				.×	×		×		į	
* Denotes milestone completion										

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Exhibit R-2





RDT&E PROGRAM ELEMENT/PF	PROJECT COST BREAKDOWN (R-3)	ST BREAKI	OWN (R-	3)	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	PE 1	PE NUMBER AND TITLE 0401218F KC-1	отте КС-135 Squadrons	ons			
PROJECT NO. AND NAME 4286 Multipoint Modification							
(U) A. Project Cost Breakdown (\$ in Thousands)	FY 1995	FY 1996	FY 1997				
 (U) Group A + Group B (U) Test planning and support (U) Data (U) SETA support 	13,378 0 686 0	6,143 1,967 0 350 1,259	0000				
 (U) Mission support (U) Aircraft maintenance (U) GFP (MILSTRIP, GFE, fuel, and miscellaneous) 	167 384 0	1,062 500 775	0 0				
(U) Total (II) R. Budget Acquisition History and Planning Information (\$ in Thousands)	14,615 (\$ in Thousands)	12,056	0				
Performing Organizations: Contract Contract Government Method/Type Award or Performing Ferforming or Funding Obligation Activity CACTUCA Activity Vehicle Date EAC EAC Boeing FFP 28 Sep 95 ASC/LCA	. ∸ `>≔l	Total Budget Prior to Budget FY 1995 FY 1995 5,749 14,448	Budget FY 1996 8,169	Budget FY 1997	Budget to Complete 0	Total <u>Program</u> 28,365	
Product Development Organizations ASC/LCA		0 167	7 1,062	0	0	2,005	
Support and Management Organizations SETA Contractors		209	0 350	0	0	559	
Test and Evaluation Organizations Edwards AFB Pax River NAS		0 0	008 0	0	0 0	008	
	Page 19	Page 19 of 28 Pages			Exhibit R-3	R-3	
	1	1642					

RDT&E PRO	GRAM EL	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BI	REAKDO	WN (R-3		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	Jevelopmer	ıt	PE NUMBER AND TITLE 0401218F KC-1	AND TITLE SF KC-13	PE NUMBER AND TITLE 0401218F KC-135 Squadrons	ns			
PROJECT NO. AND NAME 4286 Multipoint Modification									
(U) B. <u>Budget Acquisition History and Planning Information Continued (\$ in Thousands)</u>	ory and Planni	g Information Continued (\$	\$ in Thousands	(1					
Government Furnished Property:	:								
Contract Method/Type Item or Funding Description Vehicle	e Award or Obligation Date	Delivery Date	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total Program	
pment								:	
Shipping, Misc Support and Management Property	>		0	0	150	0	0	150	
MILSTRIP Test and Evaluation Property	1		0	0	200	0	0	200	
KC-135 Fuel			0	0	125	0	0	125	·
Subtotal Product Development			0	167	1212	0	0	1379	-
Subtotal Support and Management Subtotal Test and Evaluation	.		209	0 0	0 850	00	00	1059 1825	-, .
Total Project			209	167	3887	0	775	4263	
									-, - ,
		<i>y</i> d	Page 20 of 28 Pages	300			Exhibit B-3	ç	
		2	1643	000					





		RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICAL	FION SE	HEET (R	-2 Exhit	oit)		DATE N	March 1996	g
BUD.	BUDGET ACTIVITY 7 - Operationa	вирдет Астіvіту 7 - Operational System Development		PE NI 040	PE NUMBER AND TITLE 0401218F KC-135 Squadrons	пте (C-135 Sc	quadrons				
PRO. 440	PROJECT NO. AND NAME 4403 Real-Time Info	PROJECT NO. AND NAME 4403 Real-Time Information in the Cockpit (RTIC)									
<u></u>		COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
4403	ł I	Real-Time Information in the Cockpit (RTIC)	0	0	757	0	0	0	0	0	757
(£)	A. Mission D. The Air Mobil operations. R' display critical information castuational awaimplementatio KC-135, KC-1 developed inte weapons system	(U) A. Mission Description and Budget Item Justification (\$ in Thousands) The Air Mobility Command (AMC) Airlift and Air Refueling Mission Area Plans identify a deficiency in ability to protect aircraft from hostilities during combat operations. RTIC addresses this deficiency and increases aircrew survivability by providing aircrews with portable, on-aircraft, mission equipment to receive and display critical, real-time intelligence information. Strategic mobility aircrews often fly extended missions or transit enroute stations without full intelligence information repability. Information provided prior to mission departure is often outdated or incomplete upon arrival in theater. RTIC provides increased threat situational awareness and enables aircrews to make mission modifications to avoid enemy threats under rapidly changing combat conditions. To limit system implementation costs, RTIC will "snap-on" to any AMC mobility fleet aircraft when this capability is needed. These systems are intended to be transformed between RC-135, RC-10, C-141, C-5, and C-17 operational wings, as required. This project is an FY97 new start to modify and integrate on the RC-135 previously developed intelligence communication and display equipment to meet AMC requirements. This project is comprised of low technical risk efforts supporting fielded weapons systems and, therefore, is assigned to Budget Activity, Operational Systems Development.	\$\frac{\partial}{\partial}\$ in Thousands\) ling Mission Are aircrew survivabgic mobility aircression departure is on modifications nobility fleet airchest to meet AM tivity, Operationa	Area Plans vability by Jurcrews ofte e is often or ons to avoid aircraft whe This projec AMC requir ional Systen	identify a de providing ain an fly extend utdated or in enemy three an this capab it is an FY97 ements. Thi	ficiency in a recews with Jed missions complete up ats under rapulity is needfullity is needform is project is onent.	tbility to proportable, on- or transit en on arrival in pidly changii ed. These sy o modify and	tect aircraft aircraft, mis route station t theater. R' ng combat c stems are in d integrate o	from hostilii ssion equipm ns without fu IIC provides onditions. To tended to be on the KC-13 on the KC-13 cal risk effor	ties during conent to receivable intelligence increased the columit system of limit system of transformed for transformed for the supporting	ombat e and e and rreat m l between ; fielded
1 <u>1</u>	(U) <u>FY 1995</u> (U) (U) \$0	N/A Total									
1 1	(U) FY 1996 (U) (U) \$0	N/A Total									
1111	(U) <u>FY 1997</u> (U) \$645 (U) \$50 (U) \$62 (U) \$757	Engineering study/analysis; prototype development, modification, retrofit, and qualification/certification testing C/KC-135 aging aircraft activities Mission support Total	opment, mo	odification,	retrofit, and	qualificatior	v/certificatio	n testing			
<u> </u>) B. <u>Program</u>	(U) B. <u>Program Change Summary (\$ in Thousands)</u>		Page 21 of	Page 21 of 28 Pages				Exhibit R-2	3-2	

RDT&E BUDGET ITEM JUSTIFICATIO	TIFICATION SHEET (R-2 Exhibit)	3-2 Exhibit)	DATE	March 1996
виреет астічіту 7 - Operational System Development	PE NUMBER AND TITLE 0401218F KC-1	D TITLE KC-135 Squadrons		
PROJECT NO. AND NAME 4403 Real-Time Information in the Cockpit (RTIC)				
(U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong/Gen Reduction	FY 1996 0	<u>FY 1997</u> 793	Total <u>Cost</u> 793 0	
b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogram (U) Adjustments to Budget Years Since FY96 PB (U) Current Budget Submit/President's Budget	0 0	-36	757	
(U) Change Summary Explanation:				
Funding: New program start. FY97 funds have been reduced by \$36K. FY97 Real-Time Information in the Cockpit total project cost after reduction is \$757K.	FY97 Real-Time	Information in the	Cockpit total project cost after	r reduction is \$757K.
Schedule: New program start				
Technical: N/A				
(U) C. Other Program Funding Summary (\$ in Thousands)				
Pa	Page 22 of 28 Pages		Exhibit R-2	R-2
	27.7			





RDT&E BUDGET ITEM JUS	EM JUST	IFICAT	HS NOI.	EET (R	TIFICATION SHEET (R-2 Exhibit)	it)		DATE Ma	March 1996	
BUDGET ACTIVITY 7 - Operational System Development			PE NU 040	PE NUMBER AND TITLE 0401218F KC-1	лπге KC-135 Squadrons	uadrons				
PROJECT NO. AND NAME 4403 Real-Time Information in the Cockpit (RTIC)	RTIC)									-
Constitution of the Consti	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	To <u>Compl</u>	Total <u>Cost</u>	
(U) <u>PE# 0401218F/NC-133 Squamons</u> Aircraft Procurement, AF, BA-7 Other Production Charges	0	0	0	1,551	1,582	1,618	1,653	1,711	8,115	
(U) Operations & Maintenance, AF, BA-2 Mobilization	0	0	0	1,000	1,019	1,050	1,071	TBD	TBD	
(U) PE# 0401119F/C-5 Squadrons RDT&E, AF, BA-7 Operational Systems Development	0	0	672	0	0	0		0	672	****
(U) Aircraft Procurement, AF, BA-7 Other Production Charges	0	0	0	1,551	1,582	1,618	1,654	1,712	8,117	
(U) D. <u>Schedule Profile</u>	FY 1995		2 H &	FY 1996 3 4	1 2	FY 1997 3 4	74	2	4	
(U) Program Start		ı						×		
			Pare 23 of 28 Pares	28 Pages				Exhibit R-2	CI.	

RD	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	GRAM EI	EMENT/	PROJECT	COST E	SREAKD	OWN (R-	3)	DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	al System D	evelopme	nt		PE NUMBE 04012 1	PE NUMBER AND TITLE 0401218F KC-13	PE NUMBER AND TITLE 0401218F KC-135 Squadrons	ons			
PROJECT NO. AND NAME 4403 Real-Time Information in the Cockpit (RTIC)	VAME Information	in the Cockp	it (RTIC)								
(U) A. Project Cost Breakdown (\$ in Thousands)	ost Breakdown	(\$ in Thousan	<u>(sp</u> i	FY 1995		FY 199 <u>6</u>	FY 1997				
(U) Engineering study/analysis; prototype testing(U) C/KC-135 aging aircraft activities(U) Mission support	Engineering study/analysis; protot C/KC-135 aging aircraft activities Mission support	ototype test ities	ing		0	0	645 50 62				
(U) Total							757				
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	<u>equisition Histo</u>	ry and Planni	ng Informatic	n (\$ in Thousa	(spu						
Performing Organizations: Contracting office will be Electronic Systems Command (ESC)/ICY for a planned competitive award.	nizations: Cont	racting office v	will be Electro	nic Systems Cor	mmand (ESC,	//ICY for a pl:	anned compet	itive award.			
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Organizations: TBD	ent Organizatior	<u>is</u> : TBD									
Support and Management Organizations: TBD	gement Organiza	ations: TBD									
Test and Evaluation Organizations: TBD	n Organizations	: TBD									
				í					: : :		
				Fa	Page 24 of 28 Pages	ares			Exhibit R-3	H-3	





RDT&E PROGRAM ELEMENT/PROJECT C	T/PROJECT COST BREAKDOWN (R-3)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0401218F KC-135 Squadrons	

4403 Real-Time Information in the Cockpit (RTIC) PROJECT NO. AND NAME

(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)

Government Furnished Property:

Contract Method/Type or Funding Vehicle

Award or Obligation Date

Delivery

Date

Prior to FY 1995 Total

Budget FY 1995

Budget FY 1996

Budget FY 1997

Total Program Budget to Complete

Product Development Property

Description Item

Support and Management Property N/A Test and Evaluation Property N/A

Subtotal Support and Management Subtotal Test and Evaluation Subtotal Product Development

Total Project

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Exhibit R-3

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RDT&E BUDGET ITEM JUST	STIFICA	TION SE	HEET (R	LIFICATION SHEET (R-2 Exhibit)) Eig		DATE	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development		PE NI 040	PE NUMBER AND TITLE 0401218F KC-1	PE NUMBER AND TITLE 0401218F KC-135 Squadrons	nadrons				
PROJECT NO. AND NAME 4494 KC-135 Economic Life Study									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
4494 KC-135 Economic Life Study	0	0	0	0	0	959	0	0	959
() A Mission Description and Budget Item Institution (\$)	(C in Thomas	(1)							

(U) A. Mission Description and Budget Item Justification (§ in Thousands)

will include the effects of aircraft aging, corrosion, fatigue, and stress corrosion cracking resulting from the CORAL REACH Aging Aircraft Project. This project is a low technical risk effort supporting a fielded weapon system and, therefore, is assigned to Budget Activity, Operational Systems Development. This project is an The KC-135 Economic Service Life Study consists of structure, systems, and component support studies, along with cost benefit analyses. This information is required to support a Cost and Operational Effectiveness Analysis to address replacement schedules for the KC-135 based on economic decision points. The study FY00 new start.

- Total (U) FY 1995 (U) \$0
- (U) FY 1996 (U) \$0
- Total
- Total (U) FY 1997 (U) \$0

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RDT&E BUDGET ITEM JUSTIFICATION	TIFICATION SHEET (R-2 Exhibit)	2 Exhib	Ē.		рате Маг о	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0401218F KC-135 Squadrons	⊤ւ ∈ C-135 Տգւ	iadrons			
PROJECT NO. AND NAME 4494 KC-135 Economic Life Study						:
(U) B. Program Change Summary (\$ in Thousands): N/A - No funds prior to	No funds prior to FY00. FY00 funds have been reduced by \$41K.	s have been re	duced by \$4	41K.		
 (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong/Gen Reduction b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogram (U) Adjustments to Budget Years Since FY96 PB (U) Current Budget Submit/President's Budget 	FY 1996	FY 1997	Cost	1 H		
(U) C. Other Program Funding Summary (\$ in Thousands)						
(U) N/A	FY 1997 FY 1998	FY 1999	FY 2000	FY 2001	To Compl	Total Cost
(U) D. Schedule Profile: N/A - Not available at this time; new program start in FY00.	in FY00.					
Pag	Page 27 of 28 Pages				Exhibit R-2	ļ
	1650					

RDT&E PROGRAM ELEMENT/PROJECT	ROJECT COST BREAKDOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0401218F KC-135 Squadrons	
PROJECT NO. AND NAME 4494 KC-135 Economic Life Study		
(U) A. Project Cost Breakdown (\$ in Thousands): N/A - No costs prior to FY00	Y00	
Pag	Page 28 of 28 Pages	Exhibit R-3





RDT&E BUDGET ITEM JUSTIFICATION	ISTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0404102F Aerospace Rescue And Recovery	overy
PROJECT NO. AND NAME		

PROJECT NO. AND NA 1325 HH-60G

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
1325 HH-60G	0	5,109	3,322	0	0	0	0	0	8,431

(U) A. Mission Description and Budget Item Justification

transponders, and navigation radios on to the current MIL STD-1553 data bus and aircraft control display software. This program also integrates the AAR-47 missile The mission of the HH-60G is search and rescue in hostile environments. To operate on the future battlefield, rescue forces must be capable of communicating with command, control, and supporting forces. Also, defensive systems are a necessity in today's increased air threat environment. These funds will be used to engineer provide both manual and automatic threat identification and countermeasure dispensing. This program is a new start in FY96 and is Research Category/Budget warning receiver, ALE-47 flare/chaff dispensers, and APR-39a(v)1 controls on to the MIL STD-1553 data bus and into aircraft control display unit software to (1) the installation of long-range communications, a missile jamming receiver, and flare and chaff dispensers; and (2) control all communication radios, Activity Operational Systems Development because the project supports a currently operational system.

(U) FY 1995

(U) \$0 Not Applicable

(U) FY 1996

(U) \$2,250 Engineering integration and control of all avionics.

Engineering and integration of Infrared Countermeasures (IRCM) and Missile Warning Receiver (MWR). (U) \$2,895

(U) \$5,145 Tota

(U) FY 1997

(U) \$1,421 Avionics Operational Test and Evaluation.

Infrared Countermeasures (IRCM) and Missile Warning Receiver (MWR) Operational Test and Evaluation. (U) \$1,901

(U) \$3,322 Tota

(U) Acquisition Strategy: The strategy is to use proven, off-the-shelf equipment and technology. The plan is to use an existing Basic Ordering Agreement (BOA) with the HH-60G manufacturer. Both the avionics and the electronic warfare efforts will be placed on contract using the existing BOA.

Page I of 6 Pages

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (I	R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0404102F Aero	PE NUMBER AND TITLE 0404102F Aerospace Rescue And Recovery	scue And Re	covery
PROJECT NO. AND NAME 1325 HH-60G				
(U) B. Program Change Summary (S in Thousands)		·		
(U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value	FY 1996 5,369 5,369	FY 1997 3,481	Total Cost 8,850	
 a. Congressional/General Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years (U) Current Budget Submit/President's Budget 	-104 -114 -042 5,109	-159	8,431	
(U) Change Summary Explanation: Funding: FY97 includes changes due to revised inflation rates.				
Schedule: Not Applicable Technical: Not Applicable				
Pa	Page 2 of 6 Pages	·		Exhibit R-2





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SUL ME	TIFICAT	HS NO!	EET (R	-2 Exhib	£		DATE	March 1996	
вирает астилту 7 - Operational System Development			PE NUM 0404	PE NUMBER AND TITLE 0404102F Aero	TLE erospace	Rescue	PE NUMBER AND TITLE 0404102F Aerospace Rescue And Recovery			
PROJECT NO. AND NAME 1325 HH-60G				:						
(U) C. Other Program Funding Summary (S in Thousands) Information below is based on the upgrade of battlefield rescue communications and defense systems capability on HH-60G.	(housands)	ommunicatic	ons and defe	nse systems	capability o	n HH-60G.		£	£-	
OVERT COOLEGE AND	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	Compl	Cost	-
(U) Br1000 HH-60 (U) Aircraft Procurement - AF Attrition	0	0	107,900					0	107,900	
(U) BP1100 (U) Aircraft Modifications - AF (Belated RDT&E: (U) None			239	6,913	9,885	11,658	11,495		40,190	
(U) D. Schedule Profile Fiscal Year actual and planned events by quarter.	FY 1995	4	1 2 E	FY 1996 2 3	4	FY 1997 2 3	7 <u>7</u> 3			
 (U) Contract Milestones (U) Contract Award (U) T&E Milestones (U) IOT&E (U) FOT&E 					×	×	×		·	
			Page 3 of 6 Pages	5 Pages				Exhibit R-2	<i>ં</i>	

RDT&E PROGRAM ELEMENT/PI	PROJECT CO	ST BREAK	COST BREAKDOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE N	PE NUMBER AND TITLE 0404102F Aero	रमाराह Aerospace Rescue And Recovery	
PROJECT NO. AND NAME 1325 HH-60G				
(U) A. Project Cost Breakdown (\$ in Thousands)				
	FY 1995	FY 1996	FY 1997	
A				
	0	950	0	
(U) Program Management Support	0	450	0	
	~ ~	235	> C	
	0	350	0	
	0	0	1,421	
(U) Travel	0	30	0	
(U) Integration of Infrared Countermeasures (IRCM) and Missile Warning Receiver (MWR)				
(U) System Engineering	0	950	0	
	0	700	0	
	0	235	0	
-	0	235	0	
	0	700	0	
(U) Operational Test & Evaluation	0	0	1,901	
(U) Travel	0	39	0	
(U) Total	0	5,109	3,322	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	\$ in Thousands)			
Performing Organizations:				
	Page 4 o	Page 4 of 6 Pages		Exhibit R-3





RDT	RDT&E PROGRAM ELEMENT/	RAM EL	EMENT/P	PROJECT		REAKD(COST BREAKDOWN (R-3)	3	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	System De	velopmen	-		PE NUMBER AN 0404102F		ЭПТЕ Aerospace Rescue And Recovery	cue And F	Recovery	
PROJECT NO. AND NAME 1325 HH-60G	WE.									
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Product Development Organizations Contract Winner SS/C	t Organizations SS/C	96/6	N/A	N/A	0	0	5,049	0	0	5,049
Support and Management Organizations WR-ALC/LU Allot 1/9	ment Organizat Allot	<u>iions</u> 1/96	N/A	N/A	0	0	09	40	0	100
Test and Evaluation Organizations ACC & AFOTEC PO	Organizations PO	3/97	N/A	N/A	0	0	0	3,282	0	3,282
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	uisition Histor	y and Plannir	1g Information	n Continued	(\$ in Thousand	(S)				
Government Furnished Property: Not Applicable	hed Property:	Not Applicabl	<u>ə</u>							
Item Description	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Delivery <u>Date</u>		Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Product Development Property	it Property				·					
Support and Management Property	ment Property									
Test and Evaluation Property	Property									
					Page 5 of 6 Pages	ses			Exhibit R-3	! R-3

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BRE	AKDOV	VN (R-3)		DATE M	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0404102F Aero	Aerospa	ce Rescu	Aerospace Rescue And Recovery			
PROJECT NO. AND NAME 1325 HH-60G							
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	0	0	5,049 60 0	0 40 3,282	0	5,309 100 3,424	
Total Project	0	0	5,109	3,322	0	8,833	
<i>(</i>	Page 6 of 6 Pages				Exhibit R-3	-3	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION SH	HEET (R	-2 Exhib	oit)		DATE	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development*		PE NI 0 0 0	PE NUMBER AND TITLE 0604231F / 0401130F C-17 Program	тте 1 401130F	C-17 Pr	ogram			
PROJECT NO. AND NAME 2569 C-X Program Carrier									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
2569 C-X Program Carrier	184,419	896'69	87,486	107,114	178,538	173,816	168,979	181,400	6,628,995

*PE 64231 FY95 and FY96 funding is Budget Activity 5, EMD

(U) A. Mission Description and Budget Item Justification (\$ in Thousands)

needed to replace the capabilities being lost as the C-141 retires from the Air Force inventory. The C-17 is capable of performing the airlift mission well into the 21st century. This program element is budgeted in Budget Activity, Operational System Development because the program has completed Milestone III and is currently designed to operate effectively and efficiently in both the strategic and theater environments. The vast increase in overall airlift capability provided by the C-17 is Airlift provides essential flexibility when responding to contingencies on short notice anywhere in the world. It is a major element of America's national security strategy and constitutes the most responsive means of meeting U.S. mobility requirements. Additional airlift capability is needed for rapid deployment of combat forces in support of national objectives. The Congressionally-mandated Mobility Requirements Study (MRS), initially forwarded to Congress on 23 Jan 92 and airdrop), sustaining support, retrograde, and combat redeployment. The C-17 is capable of performing the entire spectrum of airlift missions and is specifically updated on 28 Mar 95, validated the need for the C-17 aircraft. Specific tasks associated with the airlift mission include deployment, employment (airland and continuing operational developmental efforts to support full-rate production and modification programs.

(U) FY 1995

- (U) \$800 Completed LFT program: 30 Sep 95
- (U) \$24,622 Completed DT&E flight test program: 16 Dec 94
- Completed reliability, maintainability & availability (RM&A) evaluation: 5 Aug 95 (U) \$5,900
 - (U) \$68,797 Continue development effort
- (U) \$54,300 Funding provided by OSD per USD(A&T) and MDA settlement agreement
 - (U) \$7,100 Begin 3rd life durability testing
- (U) \$22,900 Product improvement development & testing
 - (U) \$184,419 Tota

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RDT&E BUDGET ITEM JUSTIFICATIO	STIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development*	0604231F / 0401130F C-17 Program	
PROJECT NO. AND NAME		
2569 C-X Program Carrier		

(U) FY 1996

- (U) \$10,100 3rd life durability test
- (U) \$38,800 Continue product improvement development & testing
 - (U) \$6,800 T-1 refurbishment
- Producibility Enhancement/Performance Improvement (PE/PI) Government flight test (U) \$14,268
 - (U) \$69,968 Total
- (U) FY 1997 The change in PE in the report title reflects the end of EMD and beginning of operational system development
 - (U) \$69,086 Continue product improvement development & testing
 - (U) \$8,000 3rd life durability test
- (U) \$10,400 PE/PI Government flight test
 - (U) \$87,486 Total

(U) Acquisition Strategy:

Improvement (PE/PI) contract (to develop cost reduction changes, capability enhancements, and design fixes to service-revealed problems); 3) a field support contract The C-17 Acquisition Strategy is based on five separate contracts to support the entire scope of the C-17 weapon system. These five contracts are: 1) a multi-year (to support the current and future fielded aircraft); 4) a MYP engine contract (for Government Furnished Equipment [GFE] engines); and 5) an aircrew training production (MYP) aircraft contract (to economically purchase the full complement of production aircraft); 2) a Productibility Enhancement and Performance systems (ATS) contract (for aircrew training).

Two C-17 Defense Acquisition Board (DAB) decisions, contained in the 3 Nov 95 and 1 Feb 96 USD(A&T) Acquisition Decision Memoranda (ADMs), directed the legislation, the Air Force will proceed with a MYP program of 80 aircraft (along with engines to support them) to buy 120 aircraft at the maximum affordable rate (FY97-03: 8-9-13-15-15-15-5) beginning with the economic order quantity (EOQ) for FY96. The current C-17 acquisition strategy supports these decisions. Air Force to proceed with a 120-aircraft production program and pursue a multi-year procurement for the last 80 aircraft. Upon enactment of implementing

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SH	IEET (R-2		DATE March 1996	
вирдет астічіту 7 - Operational System Development*	PE NU 060	PE NUMBER AND TITLE 0604231F / 0401	PE NUMBER AND TITLE 0604231F / 0401130F C-17 Program		
PROJECT NO. AND NAME 2569 C-X Program Carrier					
(U) B. Program Change Summary (\$ in Thousands)					
F3	FY 1995 F	FY 1996	FY 1997		
(U) Previous President's Budget (FY96)	188,077	85,753	15,695		
	190,154	73,803			
(U) Adjustments to Appropriated Value					
a. Congressional/General Reductions	-2077	-1,465			
b. SBIR	-3572	-1,268			
c. Omnibus and Other Above Threshold Reprogrammings	-199	-1,302			
d. Below Threshold Reprogramming	113	200			
(U) Adjustments to Budget Years Since FY96 PB			71,791		
	184,419	896'69	87,486		

(U) Change Summary Explanation:

other above threshold reprogrammings (-554 for Bosnia I & -748 for F-16s to Jordan). FY97 changes include: adjustments to budget year since FY96 PB (14,217 Funding: FY95 changes include congressional/general reductions (-2,077), SBIR (-3572) and a below threshold reprogramming (-86). FY96 changes include: congressional/general reductions (-986 for improved overhead savings, -444 for economic assumptions, & -35 for ADP savings), SBIR (-1,268), Omnibus and budget transfer between C-17 PEs, -5,209 for inflation & other reductions, and +77,000 in a Zero Base Transfer [ZBT] in accordance with DAB decision to procure additional 80 aircraft).

Schedule: As a result of the November 1995 and February 1996 DAB decisions, the total program has changed from 40 to 120 aircraft and Full Operational Capability (FOC) from FY98 to FY05.

Technical: No changes.

<u> Раке 3 of 7 Pares</u> 1660

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SET ITE	M JUST	IFICATI	ON SHE	ET (R-2	Exhibit)		DATE	March 1996	
BUDGET ACTIVITY 7 - Operational System Development*	opment*			PE NUME 06042	PE NUMBER AND TITLE 0604231F / 0401130F	1130F	C-17 Program	am		
PROJECT NO. AND NAME 2569 C-X Program Carrier										
(U) C. Other Program Funding Summary (\$ in Thousands)	ıary (\$ in Tl	nousands)					(E		
	FY 1995	FY 1996	FY 1997	Total	<u>FY 2000</u>	FY 2001	To Compl	Total Cost		
 (U) <u>APAF</u> Budget Activity 02 (Aircraft Quantity) (U) <u>APAF</u> Budget Activity 06 (Spares) (U) <u>APAF</u> Budget Activity 05 (Mods) (U) <u>MilCon</u> Budget Activity N/A 	2,305,923 (6) 94,090 15,185	2,492,242 (8) 77,291 21,017 6,900	. 2,142,805 (8) (8) 61,386 41,973 80,905	EY 1995 2,376,581 (9) 133,505 41,479 9,700	3,269,055 (15) 192,730 78,650	3,252,562 (15) 203,988 198,789	4,456,000 (20) 804,300 813,000	32,550,992 (120) 2,199,269 1,278,627 335,000		
Related RDT&E: (U) None										
(U) D. Schedule Profile	-	FY 1995 2 3	-	EY 1	FY 1996 3 4 1	2	FY 1997 3 4			
(U) Acquisition Milestones: IOC RM&A Milestone III		**	*							
(U) Engineering Milestones: Static Article Test Complete Durability Article Test (1st Lifetime) Durability Article Test (2nd Lifetime) Durability Article Test (3rd Lifetime) DT&E	*				×					
DIOT&E Live Fire Test Comp (final rpt, 26 Sep 95)		* *								
				Page 4 of 7 Pages	ages			Exhi	Exhibit R-2	





RDT&E PROGRAM ELEME	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	March 1996
BUDGET ACTIVITY 7 - Operational System Development*	PE NUMBER AND TITLE 0604231F / 0401130F C-17 Program	
PROJECT NO. AND NAME 2569 C-X Program Carrier		
1 2	FY 1995 2 3 1 2 3 4 1 2 3 4	
(U) Contract Milestones: Lot VII Adv Proc (6 a/c) Lot VII (6 a/c) Lot VII (6 a/c) Lot VIII (8 a/c) Lot VIII (8 a/c) Lot IX Adv Proc (8 a/c) Lot IX (8a/c) Lot IX (8a/c) Lot X Adv Proc (9 a/c)	** ** **	·
Other Program Milestones: N/A		
* Denotes milestone completion		
	Page 5 of 7 Pages	Exhibit R-3

RDT&E	RDT&E PROGRAM ELEMENT/PROJECT	M ELEM	ENT/PRO		COST BREAKDOWN (R-3)	EAKDO	WN (R-	3)	DATE	March 1996	6
BUDGET ACTIVITY 7 - Operational System Development*	stem Develo	pment*		<u> </u>	PE NUMBER AND TITLE 0604231F / 0401130F	ND TITLE / 040113		C-17 Program	E		
PROJECT NO. AND NAME 2569 C-X Program Carrier	arrier										
(U) A. Project Cost Breakdown (\$ in Thousands)	akdown (\$ in T	housands)		FY 1995	FY 1996		FY 1997		i i		
(U) Contractor Furnished Equipment (U) Training Other Gov't Contractor (OGC)	1 Equipment t Contractor (OG	<u></u>		121,330 0	51,700 0	00,0	77,100				
(U) Test OGC (U) Mission Support OGC (I) Fnoine Data/Refurb OGC	<u>ر</u> ر			31,670 17,594	14,268 3,900	8900	10,386				
				500 500 825	1	100 0	000				
(U) Total				184,419	896'69	89	87,486				
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	on History and	Planning Infe	ormation (\$ in	Thousands)							
Performing Organizations:	ns:										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 199 <u>6</u>	Budget FY 1997	Budget to <u>Complete</u>	Total <u>Program</u>	
Product Development Organizations Douglas Aircraft E33657-81-C-2108	<u>ganizations</u> C,FPI/FP	8/31/81	5,198,038	5,198,038	5,100,10	97,530	500	0	0	5,198,138	
Douglas Aircraft F33657-95-D-2026	CPFF	7/13/95	922,847	922,847	0	23,800	51,200	77,100	770,747	922,847	
Pratt & Whitney F33657-89-C-0032	C,FP	5/24/91	25,356	25,356	12,856	12,500	0	0	0	25,356	
				Page (Pare 6 of 7 Pares				Exhibit R-3	it R-3	
				•	1662						





RDT&E	RDT&E PROGRAM ELEMENT/	M ELEME	ENT/PRO	PROJECT C	COST BREAKDOWN (R-3)	EAKDO	WN (R-	3)	DATE	March 1996
вирает астіміту 7 - Operational System Development*	tem Develo	pment*			PE NUMBER AND TITLE 0604231F / 0401130F	ND TITLE 7 / 040113		C-17 Program	u	
PROJECT NO. AND NAME 2569 C-X Program Carrier	rrier									
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to <u>Complete</u>	Total <u>Program</u>
(U) B. Budget Acquisition History and Planning Information. Continued (\$ in Thousands)	in History and I	Planning Info	rmation, Con	tinued (\$ in	Thousands)					
Douglas Aircraft F33657-89-C-0018	С, FРІ	4/14/89	83,885	83,885	83,885	0	0	0	0	83,885
Support and Management Organizations Mission Support OGC PO Site Activation OGC PO Miscellaneous PO	Organizations PO PO PO			000	79,720 2,280 36,524	17,594 500 825	3,900 100 0	0	0	101,214 2,880 37,349
Test and Evaluation Organizations Combined Test Force PO Live Fire Test PO Other	nizations PO PO PO		000	000) 149,490) 9,452) 2,960	27,000 800 3,870	14,268 0 0	10,386 0 0	39,100 0 0	240,244 10,252 6,830
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	ment lagement ion				5,196,849 118,524 161,902	51,700 4,000 14,268	77,100	770,747 0 39,100	6,230,226 141,443 257,326	
Total Project					5,477.275	896'69	87,486	809,847	6,628,995	
Government Furnished Property: Not Applicable	Property: Not ∕	Applicable								
				Рая	Pare 7 of 7 Pares				Exhib	Exhibit R-3

RDT&E BUDGET ITEM JUSTIFICATIO	STIFICATION SHEET (R-2 Exhibit)	пе March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
5 - Engineering and Manufacturing Development	0604240F B-2 Advanced Technology Bomber	mber
PROJECT NO. AND NAME		
3843 B-2 (Advanced Technology Bomber)		

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3843 B-2 (Advanced Technology Bomber)	365,511	582,649	528,454	346,611	221,997	133,487	11,685	0	24,629,516

(U) A. Mission Description and Budget Item Justification

weapons bays of over 20,000 pounds capacity each and employs a wide array of signature reduction technologies to greatly enhance both its ability to penetrate enemy defenses and its ability to survive in a highly defended target environment. The B-2 provides global force projection capability and the ability to influence an enemy with insensitivity to the location of enemy assets or the availability of forward basing. This program is in budget activity 7 - Operational System Development, The B-2 Advanced Technology Bomber is America's most advanced long-range, land-based strike aircraft. This all-wing, two crew member aircraft has twin Research Category 6.6 because of the concurrency in developing, testing, producing, and deploying the B-2.

(U) FY 1995 (\$ in Thousands):

- \$204,056 Continued developmental test and evaluation
- \$ 68,259 Continued development and support acquisition
 - \$ 93,196 Continued primary hardware development
 - \$365,511 Total

(U) FY 1996 (\$ in Thousands):

- \$146,313 Continued developmental test and evaluation
- \$74,814 Continued development and support acquisition
 - \$361,522 Continued primary hardware development
 - \$582,649 Total

(U) FY 1997 (\$ in Thousands):

- \$116,571 Continued developmental test and evaluation
- \$60,214 Continued development and support acquisition
 - \$351,669 Continued primary hardware development
 - \$528,454 Total

Page 1 of 5 Pages





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	CATION	SHEET (I	3-2 Exhib	it)	DATE March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE 0604240F B-2 /	ттге В-2 Advanc	PENUMBER AND TITLE OCO TECHNOLOGY BOMber OCO 1240F B-2 Advanced Technology Bomber	Bomber
PROJECT NO. AND NAME 3843 B-2 (Advanced Technology Bomber)					
(U) B. <u>Program Change Summary (\$ in Thousands)</u>					
(U) Previous President's Budget	FY 1995 384,080	FY 1996 623,616	FY 1997 446,225	<u>Total Cost</u> 24,815,402	
1 Value	388,543	623,616			
	(4,463) (7,294)	(12,423) (15,628)			
ous or Other Above Threshold Reprogram Threshold Reprogramming	(11,275)	(12,916)			
Y 1995 PB ıdget	365,511	582,649	82,229 528,454	-185,886 24,629,516	
(U) Change Summary Explanation:					

Funding:

was added to FY 97 based on funding misphasing, additional growth in software development and flight test impacts, and to restore shortfalls from earlier POM FY 97: Air Force restored \$51.5 million to realign FY97 funding with program content, less general AF reductions of \$18.4 million. In addition, \$49 million FY 95: Reflects a SBIR reduction of \$7.3 million and Below Threshold Reprogramming reductions of \$11.275 million. requests.

Schedule:

Envelope Expansion: Completion of envelope expansion has moved from 4th Qtr FY95 to 2nd Qtr FY96 to allow time to complete the remaining 1% of test points needed to support Block 20 capability in 4th Qtr FY96. This delay minimizes costs by integrating tests into the available flight test opportunities and maximizes flight test efficiencies while still meeting Block 20 delivery.

Complete GPS Testing: Completion of GPS testing has moved from 4th Qr FY95 to 2nd Qr FY96, based on the need to assure sufficient analysis of flight test data. The time between test flights has been extended to accommodate data processing/analysis. The schedule still supports Block 20 delivery.

Technical: N/A

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Page 2 of 5 Pages

RDT&E BUDGET ITEM JUS	M JUSTIF	TIFICATION SHEET (R-2 Exhibit)	N SHEE	T (R-2 E	xhibit)		DATE		March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	velopment		PE NUMBER AND TITLE 0604240F B-2 /	A B-2 A	dvanced	PE NUMBER AND TITLE 0604240F B-2 Advanced Technology Bomber	ogy Bon	Jber	
PROJECT NO. AND NAME 3843 B-2 (Advanced Technology Bomber)									
(U) C. Other Program Funding Summary (\$ in Thousands)	housands)							É	
A/C Proc, AF, Combat A/C/BA01/B-2A A/C Proc, AF, Combat A/C/BA01/B-2A Advanced Procurement	<u>FX1995/P</u> 16,613,678	<u>FY1996</u> 270,432 476,264	FY1997 105,089	<u>FY1998</u> 242,873	FY1999 176,923	FY2000 207,424	FY2001 31,401	Complete 201,900	Total Cost 17,849,720 476,264
A/C Proc, AF, Modifications/BA05/B-2A A/C Proc, AF, Cmn Spt Eq/BA07/Items<\$2M A/C Proc, AF, A/C Replen Spares/BA06/B-2A	87,769 13,648 2,409	16,783 538 5,722	6,106 471 4.297	5,837 497 7,787	6,572 497 8.077	7,862 497 8 241	7,142 497	24,400 cont	162,471
A/C Proc, AF, A/C Inital Spares/BA06/B-2A Proc (Other), AF/BA 02,03, 04/B-2A	872,321 148,142	58,890	44,989	80,583	92,385	110,417	95,774	133,000	1,488,359
Military Construction/BA01 A/C Proc, AF, A/C Spt Eqpt & Fac/BA07/ Rember Industrial Base Sumort	501,900 123,399	24,600 0	00	23,200	0	00	0	0	549,700 123,399
A/C Proc, AF, A/C Spt Eqpt & Fac/BA07/ Industrial Preparedness/PR708011E	3,333	13,576	3,615	3,740	3,294	3,381	0	0	30,939
Missile Proc, AF, Oth Missiles/BA42/ GPS Aided Munition/PE28030F Related RDT&E	24,823 None	0	0	0	0	0	0	0	24,823
(U) D. Schedule Profile Complete Envelope Expansion Complete GPS Testing	FY 1995 2 3	4	FY 1996 2 3 X X	9 E 4	1 2 E	FY 1997 2 3	4		
Block 20 Complete Arctic & Tropic Testing Complete GATS Testing Flight Test Complete Block 30			×	××			××		
		Page	Page 3 of 5 Pages	S.			ШХh	Exhibit R-2	





RDI	RDT&E PROGRAM ELEMENT/	RAM EL	EMENT/P	PROJECT COST BREAKDOWN (R-3)	COST BE	EAKDO	WN (R-3)		DATE	March 1996
BUDGET ACTIVITY 5 - Engineering and Manufacturing Developm	y and Manu	facturing I	Jevelopme	ent	PE NUMBER AND TITLE 0604240F B-2 A	AND TITLE F B-2 Ad	этте B-2 Advanced Technology Bomber	chnology	/ Bomber	
PROJECT NO. AND NAME 3843 B-2 (Advanced Technology Bomber)	ME ced Technolo	gy Bomber)								
(U) A. Project Cost Breakdown (\$ in Thousands)	st Breakdown (\$ in Thousanc	(5)							
Equipment Development & Evaluation Government Test Other Government Costs (OGC) Other - Direct Release Total Project	ment & Evaluati Josts (OGC) ise	ion		FY 1995 267,689 55,368 20,382 22,072 365,511			FY 1997 454,674 45,335 627 27,818 528,454			
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	ruisition Histor	y and Plannin	g Information	(\$ in Thousan	(sp					
Performing Organizations:	zations:									
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Progra</u> m
Product Development Organizations Air Vehicle - NG CPIF/AF Aircrew Training CPIF Mission Planning Multiple	nt Organizations CPIF/AF CPIF Multiple	Nov 81 Jul 85 Multiple	20,970,757 557,613 337,905	21,299,861 561,145 337,905	19,584,088 558,878 194,008	230,764 2,267 23,538	445,435 0 35,114	414,055 0 31,769	619,003 0 53,476	21,293,345 561,145 337,905
Support and Management Organizations Other Govt Costs N/A N/I Direct Release N/A N/I	ement Organizat N/A N/A	tions N/A N/A	N/A N/A	579,929 369,425	556,727 256,769	20,382 22,072	1,578 38,122	627 27,818	615 24,644	579,929 369,425
Test and Evaluation Organizations Govt Test N/A	Organizations N/A	N/A	N/A	793,461	625,866	55,368	50,850	45,335	16,042	793,461
				Pa	Page 4 of 5 Pages	S			Exhibit R-3	7-3

RD	RDT&E PROGRAM ELEMENT/P	RAM ELI	EMENT/PROJECT	T COST BREAKDOWN (R-3)	REAKDO	WN (R-3		DATE	March 1996	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	g and Manut	acturing E	Jevelopment	PE NUMBER AND TITLE 0604240F B-2 /	AND TITLE B-2 Ad	vanced To	echnolog	ьтте B-2 Advanced Technology Bomber		
PROJECT NO. AND NAME 3843 B-2 (Advanced Technology Bomber)	AME nced Technolo	gy Bomber)								
(U) B. Budget Ac	quisition History	and Planning	(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	(\$ in Thousands	[
Government Furnished Property:	ished Property:									
Item. Description	Contract Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Delivery <u>Date</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>	
Product Development Property Engines - G.E. Multiple AARL - Boeing FPIF	nt Property Multiple FPIF	Multiple Jun 88	N/A N/A	550,055 112,730	6,924 4,196	7,350	4,900 3,950	0 0	569,229 125,076	
Support and Management Property None										
Test and Evaluation Property None										
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	velopment d Management valuation			20,999,759 813,496 625.866	492,099 39,700 50,850	454,674 28,445 45,335	672,479 25,259 16,042	22,886,700 949,354 <u>793,461</u>		
TOTAL FTOJECT				22,439,121	582,649	528,454	713,780	24,629,515		
				Page 5 of 5 Pages	S			Exhibit R-3	3	





RDT&E B	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICAT	ION SH	IEET (R	-2 Exhit	oit)		DATE	March 1996	9
BUDGET ACTIVITY 7 - Onerational System Development	evelopment		PE NU 070	PE NUMBER AND TITLE 0702207F Depo	пге epot Mai	PENUMBER AND TITLE O702207F Depot Maintenance (Non-If)	(Non-If			
PROJECT NO. AND NAME 3326 Precision Measurement & Calibration	& Calibration		·							
ns) tsoo	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3326 Precision Measurement & Calibration	ation	2,032	1,423	1,444	1,494	1,543	1,581	1,618	Continuing	ТВD
(U) A. <u>Mission Description and Budget Item Justification</u> This program develops, tests, and evaluates national and Air Force measurement standards and calibration equipment in support of all Air Force programs and evelops, tests, and evaluates national and Air Force measurement standards. Metrology research and development provides technology activities, including over 150 base Precision Measurement Equipment Laboratories, test ranges, ground test facilities, and operational weapons to support systems in all phases of development and acquisition, as well as Air Force R&D laboratories, test ranges, ground test facilities, and operational weapons systems support. Rapidly changing technology requires continuing research and development of measurement standards and calibration equipment to ensure modern systems meet Air Force readiness objectives. This program addresses all metrology disciplines and includes the technology areas of laser, infrared, microwave, millimeter wave, mechanical, electronic, and ionizing radiation measurements. It is in Budget Activity 7 as it supports operational systems.	Budget Item Justification and evaluates national and A base Precision Measurement es of development and acquis nging technology requires co ce readiness objectives. This mechanical, electrical, electr	ir Force mes Equipment I ition, as wel utinuing rese program add	Isurement staboratories I as Air Fordarch and de resses all mizing radiat	andards and (PMELs) w ce R&D labo velopment o etrology disk	calibration orldwide. I ratories, tes f measurem ciplines and ciments. It is	equipment i Metrology re t ranges, gro ent standard includes the	n support of search and of und test fac and calibra technology Activity 7 as	all Air Ford developmeni ilities, and o ation equipm areas of lass it supports of	Air Force measurement standards and calibration equipment in support of all Air Force programs and teguipment Laboratories (PMELs) worldwide. Metrology research and development provides technosition, as well as Air Force R&D laboratories, test ranges, ground test facilities, and operational weap ontinuing research and development of measurement standards and calibration equipment to ensure mes program addresses all metrology disciplines and includes the technology areas of laser, infrared, tronic, and ionizing radiation measurements. It is in Budget Activity 7 as it supports operational systemanic,	and chnology eapons e modern ystems.
Metrology is a technical discipline devoted to the science of measurements and to the study and improvement of measurement technology. Measurements are the foundation of military system development, quality assurance, hardware conformance testing and system readiness tests. The integrity of these tests is assured through calibration and traceability assurance schemes. The capability to measure and calibrate must parallel the emergence of new technology, new ranges, and ney capabilities of military systems. Lack of new measurement capability impedes or blocks the successful exploitation of new technologies, especially in the movement capabilities of military systems. Lack of new measurement. R&D efforts are essential within the DoD to pace these requirements, otherwise, these same new systems will suffer time delays, excessive cost, and increased risk due to unreliable test results in all phases of development, production, deployment and operation.	pline devoted to the science of development, quality assuran ability assurance schemes. The Lack of new measurement to production to deployment, sive cost, and increased risk of	f measurem toe, hardwar he capability t capability i R&D effort lue to unreliz	e conforman to measure mpedes or b s are essent ible test resu	the study and noce testing a and calibrat slocks the su ial within th lits in all ph	l improvemend system re e must para ccessful exp e DoD to pa	of measurements and to the study and improvement of measurement technology. Measurements ance, hardware conformance testing and system readiness tests. The integrity of these tests is assured reapability to measure and calibrate must parallel the emergence of new technology, new rangent capability impedes or blocks the successful exploitation of new technologies, especially in the ref. R&D efforts are essential within the DoD to pace these requirements, otherwise, these same nedue to unreliable test results in all phases of development, production, deployment and operation.	rement tech i. The integ gence of ne new technolo nirements, o duction, del	nology. Mer rity of these w technolog, ogies, especi ogies, the therwise, the	ance, hardware conformance testing and system readiness tests. The integrity of these tests is assured ance, hardware conformance testing and system readiness tests. The integrity of these tests is assured. The capability to measure and calibrate must parallel the emergence of new technology, new ranges, and new ent capability impedes or blocks the successful exploitation of new technologies, especially in the movement at. R&D efforts are essential within the DoD to pace these requirements, otherwise, these same new systems the to unreliable test results in all phases of development, production, deployment and operation.	re the red s, and new ovement
I u S	Completed development of IR reflectance standards; continued development of IR transmittance and laser detector standards for IR / laser weapon systems. Completed development of an improved IR source; continued development of improved IR & visible detector standards for electro-optical weapon systems. Continued development of measurement capabilities to support low radar observables and of standards for radar and communication systems. Continued development of microwave noise figure and power standards used to support radar and communication receivers.	tance standa ved IR sourc ent capabili e noise figui	rds, continuce; continuecties to suppore e and power of dared dared and power of dared dared and power of dared dared and power of dared d	l developmer low radar or tow radar sr standards	tent of IR transfer of the transfer of improver observables used to supples for mean	ed IR & visi and of stam oort radar an uring flatnes	and laser de ble detector dards for rae d communic	tector stand standards for lar and com sation receiv	ards for IR / or electro-opt munications ers.	laser ical systems.
\$310 \$155	Completed development of step gages and continued developing techniques for incasume managements. Continued development of standards for electrical pulse measurements and DC voltage transfer standards to support electronic test equipment.	s and contains for electric	uca acverop al pulse mea	asurements a	nd DC volt	ige transfer s	standards to	support elec	tronic test e	luipment.
			Page 1 o	Page 1 of 5 Pages				EXNIBIT K-Z	K-7	

RI	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 7 - Operational Sy	вирсет Асті∨іт∀ 7 - Operational System Development	PE NUMBER AND TITLE 0702207F Depot Maintenance (Non-If)	
PROJECT NO. AND NAME 3326 Precision Mea	PROJECT NO. AND NAME 3326 Precision Measurement & Calibration		
- (U) \$60 - (U) \$2032	Continued development work to support ionizing radiation hazard instrumentation. Total	on hazard instrumentation.	
(U) FY 1996 (\$ in Thousands)	[housands]:		
	Complete development of IR transmittance standards for IR weapon systems.	IR weapon systems.	
- (U) \$380 - (U) \$291	Continue development of visible and IR detector standards for electro-optical weapon systems, and radiometer system calibration methods. Continue development of microwave standards and measurements for radar support instruments to provide NIST traceability for DoD test	ds for electro-optical weapon systems, and radiometer urements for radar support instruments to provide MS	system calibration methods.
- (U) \$230	equipment. Continue develonment of nower standards for microwave communication and radar excreme	communication and radar exertance	
- (U) \$203	Continue development of efficient calibration methodologies for coordinate measuring machines (CMMs) used in calibration support	gies for coordinate measuring machines (CMMs) used	in calibration support
- (U) \$143	equipment. Complete development of DC voltage standards and continue to develon standards for electrical measurements for high accuracy electronic test	inue to develon standards for electrical measurements	for high accuracy alactronic test
	equipment.		to ingli accuracy ciccitoffic test
= (U) \$46 = (U) \$1423	Continue development work to support ionizing radiatio Total	. 10fuzing radiation hazard instrumentation.	
(U) FY 1997 (\$ in Thousands)	Chousands):		
	Continue development of improved electro-optical standards to support low observables and electro-optic guided weapon systems.	irds to support low observables and electro-optic guide	d weapon systems.
	Continue development of standards and measurements for radar support instrumentation and RF communications systems.	r radar support instrumentation and RF communication	ns systems.
		Ms used in calibration support equipment.	
- (U) \$144 - (T) \$45	Continue development of standards for electrical measur	electrical measurements to support high accuracy electronic test equipment.	ent.
	Continue development work to support totaling radiation nazard instrumentation. Total	i nazaru instrumentation.	
	Page	Page 2 of 5 Pages	Exhibit R-2





	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	IFICATI	ON SHEET	r (R-2 E	xhibit)		DATE		March 1996	
	BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0702207F Depo	AND TITLE 'F Depot	PE NUMBER AND TITLE O702207F Depot Maintenance (Non-If)	oN) and	들			
	PROJECT NO. AND NAME 3326 Precision Measurement & Calibration									
	(U) B. Program Change Summary (\$ in Thousands)	·								
						Total				
		FY 1995	FY 1996	FY 1997	<u>766</u>	Cost				
	(U) Previous President's Budget	2032	1464	_	1488					
	(U) Appropriated Value	2076								
	a. Cong Gen Reductions	44	-29							
	b. SBIR c. Omnibus or Other Above Threshold Reprogram		-12							
	d. Below Threshold Reprogramming				3					
	(U) Adjustments to Budget Tears Since FT 1994 FB (U) Current Budget Submit/President's Budget	2032	1423	-	-44 1444					
	_									
	Schedule: None Technical: None									
	(U) C. Other Program Funding Summary (\$ in Thousands)							É	Ē	
***	(U)	FY 1996	FY 1997 FY	FY 1998 FY	FY 1999 FY 2000	000 FY 2001	001	Compl	Cost	
	(U) D. Schedule Profile									
	FY 1995	-	FY 1996	91 (0	드	FY 1997	-			
	(D)	+			7	n	+			
			Page 3 of 5 Pages	S			TT.	Exhibit R-2		
:			Vm - 2 / 2 / 2 / 2 m -							

RD	RDT&E PROGRAM ELEMENT/PROJECT	GRAM EL	EMENT/P	ROJECT		REAKD(COST BREAKDOWN (R-3)	3	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	al System D	evelopmer	11		PE NUMBER ANI 0702207F	PE NUMBER AND TITLE 0702207F Depot	D ТITLE Depot Maintenance (Non-If)	nce (Non		
PROJECT NO. AND NAME 3326 Precision Measurement & Calibration	JAME Measurement	& Calibratio	u		;					
(U) A. Project Cost Breakdown (S in Thousands)	ost Breakdown	(\$ in Thousan	(sp	FY 1995		FY 1996	FY 1997			
(U) Develop Meas(U) Travel(U) Reductions to(U) Total	Develop Measurement Standards & Calibration Support Travel Reductions to Appropriation (SBIR) Total	ds & Calibratí SBIR)	on Support	1968 20 44 2032	968 20 44 332	1401 22 1423	1422 22 1444			
(U) B. Budget Acquisition History and Planning Information (S in Thousands)	quisition Histor	ry and Plannin	<u>1g Information</u>	(\$ in Thousar	<u>(sp</u>					
Performing Organizations:	nizations:									
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 199 <u>6</u>	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Product Development Organizations National Institute Funds of Standards & Transfer	ent Organizations Funds Transfer	<u>s</u> 1st QTR	TBD	TBD	7592	1968	1401	1422	Continue	TBD
AFMC	In House	Various	TBD	TBD	57	20	22	24	Continue	TBD
Support and Management Organizations	gement Organiza	tions								
Test and Evaluation Organizations	1 Organizations									
				Pa	Page 4 of 5 Pages	ses			Exhibit R-3	2-3
					7					





RDT&E PR	ROGRAM EL	RDT&E PROGRAM ELEMENT/PROJECT	F COST BREAKDOWN (R-3)	EAKDO	WN (R-3		DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	n Developmen	T.	PE NUMBER AND TITLE 0702207F Depo	ND TITLE : Depot I	Maintenar	DEPOT Maintenance (Non-If)	I£)	
PROJECT NO. AND NAME 3326 Precision Measurement & Calibration	ent & Calibration	و						
(U) B. Budget Acquisition History and Planning Information Continued (S in Thousands)	listory and Planni	<u> 1g Information Continued (</u>	(\$ in Thousands)					
Government Furnished Property: Not Applicable	erty: Not Applical	ble						
Contract Method/Type Item or Funding Description Vehicle	Type Award or ng Obligation <u>Date</u>	Delivery <u>Date</u>	Total Prior to FY 1995	Budget FY 1995	Budget FY 1996	Budget FY 1997	Budget to Complete	Total <u>Program</u>
Product Development Property								
Support and Management Property	<u>serty</u>							
Test and Evaluation Property								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	nent		7649	1423	1444	Continue	TBD	
Total Project			7649	1423	1444	Continue	TBD	
			Page 5 of 5 Pages				Exhibit R-3	£

March 1996 DATE 0708011F Industrial Preparedness RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 3600 Industrial Preparedness - Manufacturing Technology 7 - Operational System Development PROJECT NO. AND NAME BUDGET ACTIVITY

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3600 Industrial Preparedness - Manufacturing Technology	0	57,945	49,969	51,851	51,811	54,081	55,603	0	Continuing

(U) A. Mission Description and Budget Item Justification

floor activities [including tools for integrated product process development (IPPD)] to supplier base interactions and performance. The strategies and best practices of application. Where mature processes are not available, laboratory-developed initial process capabilities are matured and inserted into weapon system programs. The multiple pilot projects and deployed in defense applications. Project efforts address and target all industry levels, from large prime contractors to small material and parts vendors. In the FY96 PB, the MANTECH was submitted as PE63771F. The program has been reestablished as part of PE78011F, Industrial Preparedness, to capable, responsive, multi-use industrial base with efficiencies comparable to world-class enterprises. Program efforts accelerate shop floor manufacturing process development, acquisition, and/or sustainment. The Program strives to make superior mission enabling technologies an affordable reality by expanding access to a MANTECH Program goes beyond factory floor manufacturing processes to encompass every activity within an industrial enterprise, ranging from above the shop maturation, at every stage of development, through increased emphasis on cost, time, and quality risks in transition. Best processes are evaluated and adapted for manufacturing process technologies, manufacturing engineering systems, and industrial practices and transitions these advancements into weapon system design, world-class enterprises are analyzed and the performance of defense suppliers benchmarked. The world's best industrial practices are adapted and validated in This program is in budget activity 7 - Operational System Development, Research Category 6.6 because it provides support to systems in production and/or an operational use. The Manufacturing Technology (MANTECH) Program is a corporate Air Force program that establishes and demonstrates advancements in respond to Congressional direction provided in the FY96 Authorization & Appropriation Acts.

(U) FY 1996 (\$ in Thousands):

Page 1 of 4 Pages





	R	RDT&E BUDGET ITEM JUSTIFICATION	TIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET 7 - Op	вироет Астіміту 7 - Operational S	вирдет астіміту 7 - Operational System Development	PE NUMBER AND TITLE 0708011F Industrial Preparedness	
3600 I	PROJECT NO. AND NAME 3600 Industrial Prep	PROJECT NO. AND NAME 3600 Industrial Preparedness - Manufacturing Technology		
1	(U) \$14,936	Demonstrate integrated product/process development to manufacture of defense systems. Establish and demons networked enterprise relationships, product producibility	Demonstrate integrated product/process development tools capable of affecting reduced cost and accelerated cycle time in the design and manufacture of defense systems. Establish and demonstrate electronic data exchange concepts and tools and their application in affecting networked enterprise relationships, product producibility, manufacturing systems interoperability, and technology affordability.	ycle time in the design and their application in affecting logy affordability.
l	(U) \$7,506	 (U) Continue effort to establish and definition mentionologies and tools for the capture of tester the warfighter's systems life cycle cost burden. (U) Continue effort to demonstrate a product definition management system which spans bills of mat Facilitate process maturation and standardization for military unique modules, sensors, arrays, solar c to enable the low-risk, affordable utilization of mission enabling technologies. Establish and demonst process control metrics for electronics systems components, materials, test, and inspection techniques. 	-(U) Continue enort to establish and demonstrate the methodologies and tools for the varifighter's systems life cycle cost burden(U) Continue effort to demonstrate a product definition management system which spans bills of material in multiple production environment. Facilitate process maturation and standardization for military unique modules, sensors, arrays, solar cells, automatic test systems, and devices to enable the low-risk, affordable utilization of mission enabling technologies. Establish and demonstrate process modeling and statistical process control metrics for electronics systems components, materials, test, and inspection techniques.	multiple production environment. omatic test systems, and devices cess modeling and statistical
ı	(U) \$9,813	-(U) Continue effort to establish a manufacturing proce-(U) Demonstrate electronic manufacturing process imp-(U) Initiate manufacturing efforts on multi-bandgap so Establish and demonstrate advanced processes for metarisk exploitation of mission enabling technologies. Est special emphasis placed on process considerations in the	-(U) Continue effort to establish a manufacturing process to produce affordable tactical grade fiber optic gyroscopes. -(U) Demonstrate electronic manufacturing process improvements for low-cost ferrite circulators and for maintenance-free batteries. -(U) Initiate manufacturing efforts on multi-bandgap solar cells for spacecraft to complement Phillips Laboratory development effort. Establish and demonstrate advanced processes for metal material manufacturing. Facilitate process maturation to accelerate affordable, low-risk exploitation of mission enabling technologies. Establish process control and improvement aimed at reducing product variability with special emphasis placed on process considerations in the design phase. Achieve industrial base risk reduction by promulgating critical process	scopes. Itenance-free batteries. Iory development effort. In a accelerate affordable, lowcing product variability with I by promulgating critical process
	(U) \$7,205	technologies. -(U) Establish manufacturing capacity for large welded titanium assemblies for fighter aircraft. -(U) Demonstrate thin-wall casting manufacturing process for turbine engines leading to product validation. Establish integrated process/product capabilities for the design and manufacture of mission enabling, low-co process maturation to accelerate expanded composites utilization. Demonstrate in situ process control and complities. Achieve industrial base risk reduction by facilitating enhanced composites affordability.	technologies. -(U) Establish manufacturing capacity for large welded titanium assemblies for fighter aircraft. -(U) Demonstrate thin-wall casting manufacturing process for turbine engines leading to product validation. Establish integrated process/product capabilities for the design and manufacture of mission enabling, low-cost composite structures. Facilitate process maturation to accelerate expanded composites utilization. Demonstrate in situ process control and closed-loop improvement process maturation to accelerate expanded composites utilization. Demonstrate in situ process control and closed-loop improvement canabilities. Achieve industrial base risk reduction by facilitating enhanced composites affordability.	t composite structures. Facilitate osed-loop improvement
ı	(U) \$18,485	-(U) Demonstrate rapid manufacture of thermoplastic radomes spare parts for special purpose aircraft(U) Validate reproducible and affordable processes for the manufacture of multi-functional structures Benchmark world-class enterprise processes and practices aimed at identifying capabilities and/or app eliminating waste and inefficiencies. Conduct pathfinder and pilot efforts in high-payoff endeavors ai accrued from flexible manufacturing, commercial military integration, quality processing, supplier im	-(U) Demonstrate rapid manufacture of thermoplastic radomes spare parts for special purpose aircraft. -(U) Validate reproducible and affordable processes for the manufacture of multi-functional structures for fighter aircraft. Benchmark world-class enterprise processes and practices aimed at identifying capabilities and/or approaches for reducing cycle time and at eliminating waste and inefficiencies. Conduct pathfinder and pilot efforts in high-payoff endeavors aimed at validating potential benefits accrued from flexible manufacturing, commercial military integration, quality processing, supplier improvements, and integrated	nter aircraft. s for reducing cycle time and at validating potential benefits lents, and integrated
, D	product/pre-(U) Contin-(U) Contin-(U) \$57,945 Total-(U) FY 1997 (\$ in Thousands):	product/process development(U) Continue pilot efforts to demonstrate manufacture -(U) Continue effort to implement Lean Aircraft Initiat Total n Thousands):	product/process development(U) Continue pilot efforts to demonstrate manufacture of military electronics components on a commercial line(U) Continue effort to implement Lean Aircraft Initiative findings in support of fighter and tactical missile Air Force needs. Total	ne. Vir Force needs.
		Pag	Page 2 of 4 Pages	Exhibit R-2

		7.	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EET (R-2 Exhibit) DATE March 1996	<u> </u>
BUDGET ACTIVITY 7 - Operation	T ACTIV perat	//TY tional Sy	IDGET ACTIVITY - Operational System Development 0708	PE NUMBER AND TITLE 0708011F Industrial Preparedness	
PROJEC 3600	ST NO. /	PROJECT NO. AND NAME 3600 Industrial Prep	PROJECT NO. AND NAME 3600 Industrial Preparedness - Manufacturing Technology		
1	9	(U) \$8,279	Demonstrate integrated product/process development tools capa manufacture of defense systems. Establish and demonstrate elenetworked enterprise relationships, product producibility, manu	Demonstrate integrated product/process development tools capable of affecting reduced cost and accelerated cycle time in the design and manufacture of defense systems. Establish and demonstrate electronic data exchange concepts and tools and their application in affecting networked enterprise relationships, product producibility, manufacturing systems interoperability, and technology affordability.	
1		(U) \$6,083	-(U) Complete effort to provide Air Logistics Centers with the tools needed to prepare spare parts procurement packages(U) Initiate pathfinder activity to productionize results from industry/university research initiative. Facilitate process maturation and standardization for military unique modules, sensors, arrays, solar cells, automatic test to enable the low-risk, affordable utilization of mission enabling technologies. Establish and demonstrate process model process control metrics for electronic systems components, materials, test, and inspection techniques(I) Bring on line processes canable of producing affordable tactical grade fiber ontic gyroscopes in support of air launch.	-(U) Complete effort to provide Air Logistics Centers with the tools needed to prepare spare parts procurement packages(U) Initiate pathfinder activity to productionize results from industry/university research initiative. Facilitate process maturation and standardization for military unique modules, sensors, arrays, solar cells, automatic test systems, and devices to enable the low-risk, affordable utilization of mission enabling technologies. Establish and demonstrate process modeling and statistical process control metrics for electronic systems components, materials, test, and inspection techniques.	ses
l		(U) \$8,211	-(U) Initiate effort to enable the affordable manufacture of ballis systems. Establish and demonstrate advanced processes for metal materirisk exploitation of mission enabling technologies. Establish properties placed on process considerations in the design technologies.	(U) Initiate effort to enable the affordable manufacture of ballistic wind sensors for use in munitions targeting and/or wind shear detection systems. Establish and demonstrate advanced processes for metal material manufacturing. Facilitate process maturation to accelerate affordable, lowrisk exploitation of mission enabling technologies. Establish process control and improvement aimed at reducing product variability with special emphasis placed on process considerations in the design phase. Achieve industrial base risk reduction by promulgating critical process rechnologies.	v-
l		(U) \$3,660	-(U) Continue effort to reduce investment casting manufacturing costs by 50%, focusing on the gas tu -(U) Continue effort to reduce investment remanufacturing processes for logistics centers to generate st Establish integrated process/product capabilities for the design and manufacture of mission enabling, process maturation to accelerate expanded composites utilization. Demonstrate in situ process contro capabilities. Achieve industrial base risk reduction by facilitating enhanced composites affordability.	-(U) Establish metal forming simulation remanufacturing costs by 50%, focusing on the gas turbine engine supplier base(U) Establish metal forming simulation remanufacturing processes for logistics centers to generate standardized replacement structures. Establish integrated process/product capabilities for the design and manufacture of mission enabling, low-cost composite structures. Facilitate process maturation to accelerate expanded composites utilization. Demonstrate in situ process control and closed-loop improvement capabilities. Achieve industrial base risk reduction by facilitating enhanced composites affordability.	ate
l		(U) \$23,736	-(U) Initiate effort to validate revolutionary approaches for man-(U) Complete effort for affordable production of multifunctions Benchmark world-class enterprise processes and practices aime eliminating waste and inefficiencies. Conduct pathfinder and paccrued from flexible manufacturing, commercial military integ	-(U) Initiate effort to validate revolutionary approaches for manufacture of "all composite" air vehicles at costs of 50% of alternative structures. -(U) Complete effort for affordable production of multifunctional radome structures for fighters, achieving a 30% manufacturing cost reduction. Benchmark world-class enterprise processes and practices aimed at identifying capabilities and/or approaches for reducing cycle time and at eliminating waste and inefficiencies. Conduct pathfinder and pilot efforts in high-payoff endeavors aimed at validating potential benefits accrued from flexible manufacturing, commercial military integration, quality processing, supplier improvements, and integrated	res. tion. tt
_ (U) B.	(U)	(U) \$49,969 rogram Chan	 product/process development. -(U) Expand aircraft industry benchmarking efforts to identify the best 1) performing industrial activities/enterprises, 2 operations, and 3) opportunities for improving additional industry sectors and continue Lean Implementation Initiative - (U) \$49,969 Total (U) B. Program Change Summary (\$\$ in Thousands) 	product/process development. -(U) Expand aircraft industry benchmarking efforts to identify the best 1) performing industrial activities/enterprises, 2) practices and operations, and 3) opportunities for improving additional industry sectors and continue Lean Implementation Initiative efforts. -(U) Continue effort to transform the aerospace depot maintenance support infrastructure into a world-class enterprise. Total	
			Page 3 of 4 Pages	Pages Exhibit R-2	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (F	R-2 Exhibit)		DATE March 1996
вироет астіміту 7 - Operational System Development	PE NUMBER AND TITLE 0708011F Indus	≽е NUMBER AND TITLE 0708011F Industrial Preparedness	edness	
PROJECT NO. AND NAME 3600 Industrial Preparedness - Manufacturing Technology				
*** In the FY96 PB, the MANTECH was submitted as PE63771F. The program has been reestablished as part of PE78011F, Industrial Preparedness, to respond to Congressional direction provided in the FY96 Authorization & Appropriation Acts.	n has been reestablicts.	shed as part of PE7801	IIF, Industrial	Preparedness, to respond to
		. -'	Total	
FY 1995	FY 1996		Cost	
(U) Previous President's Budget 0	53,300 60,932	00		
(U) Adjustments to Appropriated Value				
a. Cong Gen Reductions 0	-1,181			
b. SBIR 0	-1,150			
c. Omnibus or Other Above Threshold Reprogram	-656			
d. Below Threshold Reprogramming 0		49 969		
	57,945	49,969		
(U) Change Summary Explanation: Funding: Manufacturing Technology has been functionally transferred from Budget Activity 3 to Budget Activity 7.	from Budget Activ	ity 3 to Budget Activity	، ۲.	
Schedule: Not Applicable Technical: Not Applicable				
(U) C. Other Program Funding Summary (\$\sumshipsi \text{in Thousands}) Not Applicable			ā	

Page 4 of 4 Pages

(U) D. Schedule Profile Not Applicable Exhibit R-2

RDT&E BUDGET ITEM JUSTIFICATION	TIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0708026F Product/Reliable/Avail/Maintain Prod	ain Prog
PROJECT NO. AND NAME		

2146 Productivity, Reliability, Availability, Maintainability (PRAM)*

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
2146 Productivity, Reliability, Availability, Maintainability (PRAM)*	6,527	14,290	13,564	14,240	14,899	15,401	16,815	Continuing	Continuing

* FY 96 and outyear total includes funding formerly in PE 0604609F, Reliability and Maintainability Technology Insertion Program (RAMTIP). RAMTIP efforts terminated in FY 96 and all remaining funds were transferred to PRAM.

constitutes one of the most cost effective programs within the Air Force, with a proven return on investment for the entire program averaging 5:1. PRAM, a level-of-effort (U) A. <u>Mission Description and Budget Item Justification</u>
PRAM addresses acute reliability and maintainability (R&M) deficiencies by funding prototypes of developing and mature, commercial off-the-shelf technologies that can application/insertion for the Air Force's future needs. A periodic review for all projects is held to ascertain the opportunity for success of those currently underway and to select new projects. This program in budget activity 7, Operational Systems Development, because projects are being engineered for already operational weapon systems. be incorporated into existing AF weapon systems and subsystems. The objective of this program is to emphasize the rapid incorporation of R&M technology "fixes" that will improve the operational capability of weapon systems and equipment at a significantly lower cost. Average project length is twenty-seven months. This program program, is dependent upon MAJCOMS and field support to adapt technology once the initial investment is completed. Listed below are projects being pursued as identified by the Air Force Materiel Command (AFMC) Technology Master Process (TMP). The objective of the TMP is to strategically focus technology

	Completed work on B-1B Oxygen Analyzer, Low cost Titanium Casting, Automated Vehicle Data Acquisition, Miniature RF Blind-mated	Connector, Repair Technologies for CRT High Voltage Power Supply, Electronic Board and Tester Simulation Software, Fatigue Resistant	Bulkheads, Compressor Blade Monitor, Mini Zone Marker, Improved Fighter Aircraft Doors, Cooling Tower Fan Hydraulic Drive, Repair	Technology For CRT Displays, Next Generations Munitions Handler, Recore of Heat Exchangers, MAJCOM Combined Paint Project.	Continued incremental funding on Nickel-hydrogen Battery, and Reusable Software for Spacecraft. and Combustor Rework Cell	Completed work on FY95 Quick Reaction Projects, including High Load Bearing Surface Enhancement, Flame Spray Powder Coating,	Superplastic Foaming, Periodic Inspection Maintenance Stands, USM-464 Display, Operational Manual for Plastic Media Blasting, Liquid	Crystal Frequency Displays, Brake Control/Anti-Skid Device, Oil Analysis Program, Fuel Cell Lighting System, Main Landing Gear Model,	Multi-Service Oil Analysis Program.	Started Fiber Optic Attitude Sensor.	Total	
(U) FY 1995	- (U) 3,616			***	– (U) 750	- (U) 780				- (U) 1,381	- (U) 6,527	



Page 1 of 5 Pages

(U) FY 1996



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	March 1996
DESET ACTIVITY - Operational System Development - Operational System Development	ı Prog
ST NO. AND NAME Productivity, Reliability, Availability, Maintainability (PRAM)*	
Continue incremental funding on Nickel-Hydrogen Battery, Reusable Software for Spacecraft, C-141 Electric Starlifter, Next Generation Munitions Handler. Planar Ontics Display, and Digital Man System	fter, Next Generation
Start Durability Patch.	
Start Composite Mobile Maintenance Stands.	
Start and Complete Munitions Facility Siting Aid. Start and Complete Advanced Technology Insertion Module	
Start and Complete AP-101C Avionics Control Unit.	
Start and Complete the following Quick Response Projects: Cable Wrap Tester, Jig Borer to Jig Grinder, Sloping Longeron, Real-Time Multiple Signal Processor, Composite Engine Cowl Doors, USM - 601. Heat Exchanger Replacement, and Robot Eves.	ongeron, Real-Time ves.
Complete Advanced Magnetic Azimuth Detector.	
Complete Compressor and Turbine Balancing.	
Complete Advanced Hybrid Oxygen System.	
Complete Testable and Monitorable Modular Mission Computer.	
Complete Fiber Optic Rate Gyro.	
Complete Combustor Rework Cell.	
otal	
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Page 2 of 5 Pages Exhibi	Exhibit R-2

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ION SHEET (R-2 Exhib		DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0708026F Prod	ागाट Product/Re	D TITLE Product/Reliable/Avail/Maintain Prog	itain Prog
PROJECT NO. AND NAME 2146 Productivity, Reliability, Availability, Maintainability (PRAM)*	*(
 (U) FY 1997 (U) 800 (D) 800 (D) 11,012 (D) 11,012 (D) 11,012 (D) 11,012 (D) 11,012 (D) 11,013 (D) 11,014 (D) 11,015 <l< td=""><td>raft, Combination Ge nd Qtr FY96 to consid reliability and maints sly throughout FY 97</td><td>nerator Air Cor er future projec iinability impr as needs evolve</td><td>nditioner. sts. The TMP will ident ovement, and cost for e.</td><td>uífy potential projects with the xecution. Quick response</td></l<>	raft, Combination Ge nd Qtr FY96 to consid reliability and maints sly throughout FY 97	nerator Air Cor er future projec iinability impr as needs evolve	nditioner. sts. The TMP will ident ovement, and cost for e.	uífy potential projects with the xecution. Quick response
(U) B. Program Change Summary (\$ in Thousands)			Total	
(U) Previous President's Budget (FY 1996) 6,527 (U) Appropriated Value 6,527	(7.1995 FY 1996 6,527 15,719 6,527 15,719	FY 1997 15,340	<u>Cost</u> Continuing	
 (U) Adjustments to Appropriated Value a. Small Business Innovative Research (SBIR) b. Congressional General Reductions c. Omnibus and Other Above Threshold Reprogrammings (U) Adjustments to Budget Years (U) Current Budget Submit/President's Budget 	-236 -721 -433 -39 6.527 14.290	-1,776	Continuing	
Change Summary Explanation: FY 97 reduction for inflation rate adjustment (\$76 th	usand) and to fund hig	her priority Air	r Force programs (\$1.7)	million).

Schedule: None.

Technical: None.

Exhibit R-2



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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SOL ME	TIFICAT	HS NOI	EET (R	-2 Exhit	oit)		DATE MA	March 1996	\neg
BUDGET ACTIVITY 7 - Operational System Development			PE NUI 070	PE NUMBER AND TITLE 0708026F Prod	itle roduct/R	eliable/A	vail/Main	DITILE Product/Reliable/Avail/Maintain Prog		
PROJECT NO. AND NAME 2146 Productivity, Reliability, Availability, Maintainability (PRAM)*	aintainabi	lity (PRAM	*(
(U) C. Other Program Funding Summary (S in Thousands)	housands)									Г
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	To Compl	Total <u>Cost</u>	
Related RDT&E: (U) PE 0604609F, Reliability and Maintainability Technology Insertion Program (RAMTIP)	8,569	0	0	0	0	0	0	0	Cont	· · · · · · · · · · · · · · · · · · ·
(U) D. Schedule Profile Not applicable.										
										·
			Page 4 of 5 Pages	5 Pages				Exhibit R-2	2	

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RDT&E PROGRAM ELEMENT/PROJECT	ROJECT COST BREAKDOWN (R-3)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0708026F Product/Reliable/Avail/Maintain Prog	ıtain Prog
PROJECT NO. AND NAME 2146 Productivity, Reliability, Availability, Maintainability (PRAM)*		•
(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u> Not applicable		
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands) Not applicable	<u>(§)</u>	
	*	
Pa	Page 5 of 5 Pages	Exhibit R-3
	1683	

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	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA.	FION SE	IEET (R	-2 Exhit	oit)		DATE	March 1996	9
BUDG 7 - C	вирдет астімту 7 - Operational System Development		PE NU 070	PE NUMBER AND TITLE 0708611F Supp	TTLE upport S	PENUMBER AND TITLE OT08611F Support Systems Development	Jevelopn	nent		
	COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
	Total Program Element (PE) Cost	0	5,613	5,405	5,687	5,817	5,979	6,071	0	Continuing
3090	3090 Embedded Computer Resources Support Improvement Program (ESIP)*	0	3,106	2,975	3,226	3,413	3,512	3,570	Continuing	Continuing
3318	3318 Product Data Systems Modernization (PDSM)**	0	2,044	1,974	1,972	1,889	1,939	1,968	Continuing	Continuing
3759	3759 Air Force Support Equipment Management (AFSEM)***	0	463	456	489	515	528	533	Continuing	Continuing

- * FY 95 efforts funded within PE 0708012F, Project 3090, ESIP.
- FY 95 efforts funded within PE 0708012F, Project 3317, Air Force Digital Specifications and Standards, and PE 0604740F, Project 3315, Digital Information Technology Transition. Amount shown represents sum of both PEs.
 - *** FY 95 efforts funded within PE 0604704F, Project 3759., AFSEM.

(U) A. Mission Description and Budget Item Justification

Continuous Acquisition and Life-Cycle Support (CALS) concept. It funds the Air Force support equipment (SE) management objective to develop, support, distribute, and methodologies, provides automated tools and infrastructure environments, and improves readiness support to facilitate rapid software turnaround in response to changing identify and evaluate all Air Force ATS for both long and short-term planning. This program is in budget activity 7 - Operational System Development, because projects maintain products that improve Air Force SE acquisition. It supports the Air Force Automatic Test Systems (ATS) Product Master Plan and Air Force ATS Database to mission and/or threat requirements. It conducts research and development to update Air Force digital data standards to commercial industry standards that support the This program improves support of embedded computer system software, automates and standardizes weapon system support processes, establishes advanced support are being engineered to support already operational weapon systems.

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RDT&E BUDGET ITEM JUSTIFICATIOI	TIFICATION SHEET (R-2 Exhibit) DATE March 1996	
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0708611F Support Systems Development	
(U) Acquisition Strategy: Not applicable.		
(U) B. <u>Program Change Summary (S in Thousands)</u>		

Total Cost Continuing

5,634

5,906 5,906

8,699

-119 -116 -58

c. Omnibus and Other Above Threshold Reprogrammings

(U) Adjustments to Budget Years(U) Current Budget Submit/President's Budget

a. Small Business Innovative Research (SBIR)

b. Congressional General Reductions

(U) Previous President's Budget (FY 1996)(U) Appropriated Value(U) Adjustments to Appropriated Value

FY 1997

FY 1996

FY 1995

(U) Change Summary Explanation:

Improvement Program and Project 3318, Product Data Systems Modernization, PE 0604704F for Project 3759, Air Force Support Equipment Management, Funding: Funds were transferred into PE 0708611F starting in FY96 from PE 0708012F for Project 3090, Embedded Computer Resources Support and PE 0604740 for Project 3318, Product Data Systems Modernization.

Continuing

5,405

5,613

8,699

-229

Schedule: Not applicable.

Technical: Not applicable.

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RDT&E BUDGET ITEM JUSTI	TIFICATION SHEET (R-2 Exhibit)	SHEET (R	-2 Exhit	oit)		DATE N	March 1996	
BUDGET ACTIVITY 7 - Operational System Development	<u>a</u>	PE NUMBER AND TITLE OT08611F Supp	Support Systems Development	ystems D	evelopm			
(U) C. Other Program Funding Summary (S in Thousands)								
FY 1995 F	FY 1996 FY 1997	97 FY 1998	FY 1999	FY 2000	FY 2001	To	Total Cost	
	14,362 17,018 1,777 1,645	•	14,687	15,126	15,439	Cont	Cont	
(U) O&M - AF (IMDS) ² (U) Other Procurement - AF (IMDS) ²			973	1,933 1,940	1,918	Cont	Cont	
Related RDT&E: (U) PE 0603108F, Integrated Data Systems (IDS) 8,339	14,404 18,232	132 20,433	22,073	23,020	20,782	Cont	Cont	
¹ FY 95 efforts funded within PE 0708012F, Project 3090, ESIP. ² RDT&E funds located within PE 0603108F, Project 4427, Integrated Maintenance Data Systems (IMDS).	ited Maintenance	: Data Systems (IMDS).					
(U) D. Schedule Profile: See individual projects.								
								-:
	Page 3	Page 3 of 16 Pages				Exhibit R-2	7	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0708611F Support Systems Development	ent
PROJECT NO. AND NAME		

3090 Embedded Computer Resources Support Improvement Program (ESIP)*

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3090 Embedded Computer Resources Support Improvement Program (ESIP)*	, O	3,106	2,975	3,226	3,413	3,512	3,570	Continuing	Continuing

(U) A. <u>Mission Description and Budget Item Justification</u>
This project conducts research to improve support of embedded computer system software. It encompasses automation and standardization of support processes, advanced support methodologies, tools and environments, and readiness support to facilitate rapid turnaround of software in response to changing mission and/or changing threat requirements. It is a Budget Activity 7, Operational Systems Development, because projects are being engineered to support already operational weapon systems.

(U) FY 1995*

* FY 95 efforts funded within PE 0708012F, Project 3090, ESIP. Funding transferred into PE 0708611F starting in FY 96.

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Demonstrate real-time fault tolerant software techniques. 200 600 270 761 470 270

Demonstrate virtual hypermedia-based support environment.

Demonstrate automated testing for Diverse Avionics Scenarios. 99

Develop virtual simulator module switching unit.

Transition Radio Frequency (RF) testing techniques to Air Logistics Centers (ALCs). Reengineering of JOVIAL code to well-engineered Ada..

Develop Avionics Validation and Verification Static Analysis Capability

535

3,106

Page 4 of 16 Pages





March 1996 DATE 0708611F Support Systems Development Total Cost Continuing Continuing RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) 2,975 -126 3,101 FY 1997 PE NUMBER AND TITLE Develop JOVIAL prototype verification and validation (V&V) system. 3,268 3,268 3,106 FY 1996 63 4 -33 3090 Embedded Computer Resources Support Improvement Program (ESIP)* Final demonstration of Radio Frequency (RF) Test Techniques. Test and demonstrate virtual simulator module switching unit. Demonstrate initial Automated Visualization Capability. Final Real-Time Fault-Tolerant Software demonstration FY 1995 Demonstrate advanced V&V of cockpit displays.. Enhanced Ada Re-engineering demonstration c. Omnibus and Other Above Threshold Reprogrammings (U) B. Program Change Summary (\$\frac{1}{2}\$ in Thousands) 7 - Operational System Development (U) Adjustments to Budget Years(U) Current Budget Submit/President's Budget a. Small Business Innovative Research (U) Previous President's Budget (FY 1996)(U) Appropriated Value(U) Adjustments to Appropriated Value b. Congressional General Reductions (U) Change Summary Explanation: Adjustments to Budget Years PROJECT NO. AND NAME 900 2,975 (U) 1,070

Funding: FY 95 efforts funded within PE 0708012F, Project 3090, Embedded Computer Resources Support Improvement Program. Funding transferred into PE 0708611F starting in FY96.

Schedule: Not applicable.

Technical: Not applicable.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-2 Exhibit)	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0708611F Support Systems Development	
PROJECT NO. AND NAME 3090 Embedded Computer Resources Support Improvement Program (ESIP)*	ram (ESIP)*	
(U) C. Other Program Funding Summary (\$ in Thousands): See page 3, C., Other Program Funding Summary.		
(U) D. Schedule Profile FY 1995*	<u>Y 1996</u>	
U) Demonstrate real-time fault tolerant	1 2 3 4 1 2 3 4 X	
software techniques. (U) Demonstrate virtual hypermedia-	×	
	×	
(U) Develop virtual simulator module	×	
(U) Transition RF testing techniques to	X	
Air Logistics Centers (ALCs). (U) Re-engineering of JOVIAL code to	×	
well-engineered Ada.	42	
(U) Develop avionics verification and validation (V&V) static analysis	×	
capability	;	
(U) Test and demonstrate virtual simulator module switching unit.	≪	
(U) Develop JOVIAL prototype V&V	X	
system.	*	
cockpit displays.	<	
(U) Demonstrate initial automated	×	
visualization capability. (I) Final real-time fault-tolerant coftware	*	
demonstration.	;	
P_{i}	Page 6 of 16 Pages Exhibit R-2	it R-2
	00/1	





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit) DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0708611F Support Systems Development
PROJECT NO. AND NAME 3090 Embedded Computer Resources Support Improvement Program (ESIP)*	m (ESIP)*
FY 1995*	$\frac{\text{FY } 1996}{2 3 4 1 2 3 4}$
)	
(U) Final demonstration of Radio Frequency (RF) test techniques.	X
* FY 95 efforts funded within PE 0708012F, Project 3090, ESIP. Funding transferred into PE 0708611F starting in FY 96.	ng transferred into PE 0708611F starting in FY 96.
Pas	Page 7 of 16 Pages

1690

RDT&E PROGRAM ELEMENT/PROJECT	COST BREAKDOWN (R-3)	OWN (R-3) DATE	E March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0708611F Supp	D ТІТLE Support Systems Development	
PROJECT NO. AND NAME 3090 Embedded Computer Resources Support Improvement Program (ESIP)*			
(U) A. Project Cost Breakdown (S in Thousands)			
(U) Demonstrate real-time fault tolerant software techniques. (U) Demonstrate virtual hypermedia-based support	FY 1996 200 600	FY 1997	
(U) Demonstrate automated testing for diverse avionics	270		
(U) Develop virtual simulator module switching unit. (U) Transition Radio Frequency (RF) testing techniques to Air	761 470		
(U) Re-engineering of JOVIAL code to well-engineered Ada. (U) Develop avionics verification and validation (V&V) static	270 535		
analysis capaounty. (U) Test and demonstrate virtual simulator module switching		1,070	
(U) Develop JOVIAL prototype V&V system. (U) Demonstrate advanced V&V of cockpit displays.		470 270	
(U) Final real-time fault-tolerant software demonstration. (II) Final real-time fault-tolerant software demonstration.		70 25 470	
(U) Final demonstration of Radio Frequency (RF) test		009	
(U) Total	3,106	2,975	
* FY 95 efforts funded within PE 0708012F, Project 3090, ESIP. Funding transferred into PE 0708611F starting in FY 96.	ng transferred into PE 07	708611F starting in FY 96.	
(U) B. Budget Acquisition History and Planning Information (S in Thousands) Not applicable	(sp		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION SH	HEET (R	-2 Exhib	oit)		DATE	March 1996	9
BUDGET ACTIVITY		PE N	PE NUMBER AND TITLE	ITLE		. ,			
7 - Operational System Development		070	8611F S	0708611F Support Systems Development	ystems [Sevelopn	nent		
PROJECT NO. AND NAME 3318 Product Data Systems Modernization (PDSM)**									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3318 Product Data Systems Modernization (PDSM)**	0	2,044	1,974	1,972	1,889	1,939	•	1,968 Continuing Continuing	Continuing

transition of functional capabilities of legacy systems to the new joint systems. It is Budget Activity 7, Operational Systems Development because projects are being (U) A. Mission Description and Budget Item Justification
This project implements digital product data management within the Air Force Integrated Weapon System Management infrastructure and ensures uninterrupted engineered to support already operational weapon systems.

(U) FY 1995

** Efforts funded within PE 0708012F, Project 3317, Air Force Digital Specifications and Standards and PE 0604740F, Project 3315, Digital Information Technology Transition. Funds were transferred into PE 0708611F starting in FY 96.

	Manage AF legacy technical data conversion.	Plan/participate/activate AF JEDMICS sites.	Complete digital data templates for use in JCALS (DT&E/IOT&E).	Plan/participate in JCALS to ensure AF requirements and schedules are met.	Begin to activate AF JCALS sites to ensure timely and accurate data is available and useable.	Test digital data specifications/standards and represent AF at international standards activities.	Provide direct support to weapon systems, Logistics and Product Centers, and Major Commands (MAJCOMS).	Total
1996	553	286	202	599	134	202	89	2,044
(U) FY	9	(E)	(E)	(E) -	:	(E) -	(E) -	- (U) 2,044

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RDT&E BUDGET ITEM JUSTIFICATION	TIFICATION SHEET (R-2 Exhibit)	-2 Exhib	it) DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0708611F Supp	TTLE upport Sy	Support Systems Development	
PROJECT NO. AND NAME 3318 Product Data Systems Modernization (PDSM)**				
 (U) FY 1997 (U) 661 Manage AF technical data conversion. (U) 209 Plan/participate/activate JEDMICS sites (U) 213 Develop and maintain digital data templates for new acquisition technical orders. (U) 322 Plan/participate in JCALS to ensure AF requirements and schedules are met. (U) 284 Activate AF JCALS sites to ensure timely and accurate data is available and useable. (U) 215 Test digital data specifications/standards and represent AF international standards activities. (U) 70 Provide direct support to weapon systems, Logistics and Product Centers, and MAJCOMS. (U) 1,974 Total 	puisition technical as schedules are mata is available an Frinternational st Product Centers,	orders. let. nd useable. andards activ	ities.	
(U) B. Program Change Summary (\$\frac{1}{2}\$ in Thousands)				
(U) Previous President's Budget (FY 1996) (U) Appropriated Value (U) Adjustments to Appropriated Value	FY 1996 2,149 2,149	FY 1997 2,058	Total Cost Continuing	
 a. Smart Dustriess Innovative Research (SBIR) b. Congressional General Reductions c. Omnibus and Other Above Threshold Reprogrammings (U) Adjustments to Budget Years (U) Current Budget Submit/President's Budget 	-43 -42 -20 2,044	-84 1,974	Continuing	
(U) Change Summary Explanation: Funding: Funds were transferred into PE 0708611F starting in FY96 f	starting in FY96 from PE 0708012F and PE 0604740.	and PE 0604	740.	
Schedule: Not applicable.				
Technical: Not applicable.				

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(U) C. Other Program Funding Summary (\$\section \text{Thousands}\)
Not applicable





RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit) DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0708611F Support Systems Development
PROJECT NO. AND NAME 3318 Product Data Systems Modernization (PDSM)**	
(U) D. Schedule Profile	
$\frac{\text{FY 1995}}{1}$ (U) Manage AF legacy technical data	FY 1996 2 3 4 1 2 3 4
conversion. (U) Plan/participate/activate AF IRDMICS eites	
ates for use	X
(U) Plan/participate in JCALS. (U) Begin to activate JCALS sites.	×
(U) Develop digital data templates for new acquisition technical orders.	×
** Efforts funded within PE 0708012F, Project 3317, Air Force Digital Specifications ar Technology Transition. Funds were transferred into PE 0708611F starting in FY 96.	Air Force Digital Specifications and Standards and PE 0604740F, Project 3315, Digital Information to PE 0708611F starting in FY 96.

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	OJECT COS	ST BREAKI	JOWN (R-3)	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE N 07	PE NUMBER AND TITLE 0708611F Supp	PENUMBER AND TITLE OF SYSTEMS Development	pment	
PROJECT NO. AND NAME 3318 Product Data Systems Modernization (PDSM)**					
(U) A. Project Cost Breakdown (\$ in Thousands)	FY 1995	FY 1996	FY 1997		
(U) Develop digital data templates for new acquisition technical orders			213		
(U) Manage AF legacy technical data conversion. (U) Develop and test digital data specifications/standards and		553 202	661 215		
represent AF at international standards activities. (U) Plan/participate/activate JEDMICS sites. (U) Complete digital data templates for use in JCALS DT&FIOT&F		286 202	209		
(U) Plan/participate in JCALS to ensure AF requirements and schedules are met		599	322		
(U) Activate AF JCALS sites to ensure timely and accurate data is available and useable.		134	284		
(U) Provide direct support to weapon systems (C-17, Titan IV, VCX, T-1A, F-22, etc.), Logistics and Product Centers, and Major Commands (MA ICOMS)		89	70		
E 0708012F, Project 3317 Funds were transferred i	2,04 7, Air Force Digital Specifications au into PE 0708611F starting in FY 96.	2,044 ifications and Star g in FY 96.	2,044 1,974 7, Air Force Digital Specifications and Standards and PE 0604740F, Project 3315, Digital Information into PE 0708611F starting in FY 96.	oject 3315, D	igital Information
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands) Not applicable.	in Thousands)				

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RDT&E BUDGET ITEM JUSTIFICATION	STIFICATION SHEET (R-2 Exhibit)	re March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0708611F Support Systems Development	nt
PROJECT NO. AND NAME		

3759 Air Force Support Equipment Management (AFSEM)***

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
3759 Air Force Support Equipment Management (AFSEM)***	0	463	456	489	515	528	533	Continuing	Continuing

(U) A. Mission Description and Budget Item Justification

The category of research being performed in this PE is The Automatic Test Systems (ATS) Product Group Manager (PGM) Product Master Plan (PMP) and ATS Database PGM customers via Ethernet Local Area Network and accessible on the World Wide Web. Additionally, A Broad Based Environment for Test (ABBET) provides support managers the capability to match new test requirements to existing test capabilities and ATS developments. The ATS Database will be made available remotely to ATS standardization and ATS PGM long-term planning by capturing essential data on all Air Force ATS. The Database will include all ATS identified in the PMP and be interfaces used will reduce development, acquisition, and sustainment costs for ATS. It is Budget Activity 7, Operational Systems Development, because projects are in this long term Air Force ATS planning and standardization effort. Cooperative standards development with industry to standardize ATS hardware and software used to interface with Integrated Weapon System Master Plans. The ATS Database will also include the ATS Parametric Database. It will provide ATS users and development effort is designed to give the ATS Product Group Manager (PGM) the tools to track and plan Air Force ATS direction. The PMP will support being engineered to support already operational weapon systems.

(U) FY 1995*

* FY 95 efforts funded within PE 0604704F, Project 3759, Air Force Support Equipment Management. Funds transferred into PE 0708611F starting in FY 96.

- Develop detailed Product Line Master Plans.
- Continue Automatic Test Systems (ATS) Product Master Plan (PMP) data maintenance.
 - Program upgrades to the ATS Database.
- Jpdate and maintain ATS Parametric Database.
 - Jpgrade Database hardware/software.
 - Program Management Support.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2	Exhibit)		DATE March 1996
вирсет Астіvіт 7 - Operational System Development	PE NUMBER AND TITLE O708611F Supp	Support Systems Development	s Developm	
PROJECT NO. AND NAME 3759 Air Force Support Equipment Management (AFSEM)***				
 (U) FY 1997 - (U) 384 Develop detailed Product Line Master Plans. - (U) 20 Program upgrades to the ATS Database. - (U) 16 Update and maintain ATS Parametric Database. - (U) 36 Program Management Support. - (U) 456 Total 				
(U) B. Program Change Summary (\$\frac{1}{2}\$ in Thousands)				
(U) Previous President's Budget (FY 1996) (U) Appropriated Value (U) Adjustments to Appropriated Value a. Small Business Innovative Research (SBIR) b. Congressional General Reductions	FY 1996 489 489 -11	Total FY 1997 Cost 475 Continuing	Total <u>Cost</u> nuing	
	-5-	-19 456 Continuing	nuing	
(U) Change Summary Explanation: Funding: FY 95 efforts funded within PE 0604704F, Project 3759, Air Force Support Equipment Management. Funds transferred into PE 0708611F starting in FY96.	Force Support Equip	ment Management	t. Funds transfe	rred into PE 0708611F starting
Schedule: Not applicable.				
Technical: Not applicable.				
(U) C. Other Program Funding Summary (\$\sqrt{s}\$ in Thousands) Not applicable.				
Page	Page 14 of 16 Pages			Exhibit R-2

1697 UNCASIFIED



RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) March 1996
BUDGET ACTIVITY 7 - Operational System Development
PROJECT NO. AND NAME 3759 Air Force Support Equipment Management (AFSEM)***
(U) D. Schedule Profile
$\begin{array}{cccccccccccccccccccccccccccccccccccc$
Management support X X X upgrades to the ATS X
Database (U) Update and maintain ATS Parametric
Database (U) Develop detailed Product Line Master
Plans (U) Upgrade Database hardware and
* FY 95 efforts funded within PE 0604704F, Project 3759, Air Force Support Equipment Management. Funds transfer into PE 0708611F starting in FY 96.
Page 15 of 16 Pages

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BREAKD	OWN (R-3)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE O708611F Supp	D TITLE Sustems Development	
PROJECT NO. AND NAME 3759 Air Force Support Equipment Management (AFSEM)***			
(U) A. Project Cost Breakdown (\$ in Thousands)			
FY 1995*	5* FY 1996	FY 1997	
(U) Develop Product Line Master Plan	362	384	
(U) Update ATS Database	, 20	20	
(U) ATS Product Master Plan (PMP) data maintenance (U) Program Management Support	34 38	36	
(U) Total	463	456	
* FY 95 efforts funded within PE 0604704F, Project 3759, Air Force Support	pport Equipment Manager	nent. Funds transferred into	Air Force Support Equipment Management. Funds transferred into PE 0708611F starting in FY 96.
(U) B. Budget Acquisition History and Planning Information (S in Thousands) Not applicable.	(spu		
Pa	Page 16 of 16 Pages		Exhibit R-3







RDT&E BUDGET ITEM JUS		TION S	HEET (R	TIFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	(0)
BUDGET ACTIVITY 7 - Operational System Development		PE N	PE NUMBER AND TITLE 0804734F CRY	TITLE SRYPTO/	TITLE CRYPTO/SIGINT Related Skill Tng	elated S	kill Tng		
PROJECT NO. AND NAME 1005 SENTINEL BRIGHT PHASE II/SENTINEL II									
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
1005 SENTINEL BRIGHT PHASE II/SENTINEL II	1,441	1,017	1,887	1,438	0	0	0	4,342	7,668
(U) A. Mission Description and Budget Item Justification: Provides funding required for the SENTINEL II (SII) Integration Program which is designed to complete the software development begun under SENTINEL BRIGHT II (SBII) and to automate and integrate the commercial off-the-shelf hardware and software purchased for SBII and SENTINEL ASPEN II (SAII) systems. SBII supports cryptologic analysts and maintenance personnel; SAII supports general military intelligence analysts. SII integrates SBII and SAII with common software on like hardware providing computer aided/computer managed instruction for intelligence personnel. This program parallels the fielding of modernized operational intelligence systems and corrects long-standing deficiencies in training "mission ready" intelligence professionals.	ion: Provide EL BRIGHT ems. SBII s ommon softv ized operatio	s funding r II (SBII) an upports cryp vare on like mal intellige	equired for to to to to to automa tologic analy hardware pruce systems	the SENTINI te and integriysts and mai oviding com and corrects	EL II (SII) In ate the commutenance per puter aided/c long-standii	ntegration Percial off-t sonnel; SA computer mand deficiency	rogram whic he-shelf har Il supports g anaged instr ics in trainir	th is designed rdware and so general milita uction for int ng "mission r	to ftware ry siligence sady"
(U) FY 1995 (\$ in Thousands): - (U) \$157 SENTINEL II Contract - (U) \$208 Courseware Development - (U) \$1076 Program Office - (U) \$1,441 Total	_								
(U) <u>FY 1996 (\$ in Thousands)</u> : - (U) \$233 SENTINEL II Contract - (U) \$784 Program Office - (U) \$1,017 Total									
(U) <u>FY 1997 (\$ in Thousands)</u> : - (U) \$834 SENTINEL II Contract - (U) \$332 Courseware Development - (U) \$721 Program Office - (U) \$1,887 Total									
		Page I o	Page 1 of 3 Pages				Exhibit R-2	R-2	
		1700	00						

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R.	-2 Exhibit)	DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0804734F CRYI	PE NUMBER AND TITLE 0804734F CRYPTO/SIGINT Related Skill Tng	ated Skill Tn	
PROJECT NO. AND NAME 1005 SENTINEL BRIGHT PHASE II/SENTINEL II				
(U) B. Program Change Summary (\$ in Thousands)		Totel		
(U) Previous President's Budget 1,472 (U) Appropriated Value 1,526	$\frac{\text{FY } 1996}{1,139}$	FY 1997 Cost 1,954 7,900		
(c) Adjustments to Appropriated value a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram	-94 -19			
d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1995 PB (U) Current Budget Submit/President's Budget	-9	-67 1,887 7,668		
(U) Change Summary Explanation: Funding: Changes due to Congressional reductions and budget constraints.	aints.			
Schedule:				
Technical:				
(U) C. Other Program Funding Summary (\$\frac{8}{2}\$ in Thousands)				
(U) RDT&E in PE35885G, Tactical Crypto 2,008 2,567 Program (National Security Agency)	FY 1997 FY 1998 0	FY 1999 FY 2000 EV 000 EV EV 000 EV EV EV 000 EV EV EV EV EV EV EV EV EV EV EV EV EV	10 <u>FY 2001</u> <u>Compl</u> 0 2,567	10 10tal <u>Compl</u> <u>Cost</u> 2,567 6,723
(U) D. Schedule Profile Not Applicable				
I	Page 2 of 3 Pages		Exhil	Exhibit R-2
	1201			

1701





RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ECT COST	BREAKD	OWN (R-3)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUM 0804.	PE NUMBER AND TITLE 0804734F CRYF	PE NUMBER AND TITLE 0804734F CRYPTO/SIGINT Related Skill Tng	
PROJECT NO. AND NAME 1005 SENTINEL BRIGHT PHASE II/SENTINEL II				
(U) A. Project Cost Breakdown (\$ in Thousands)				
	FY 1995	FY 1996	FY 1997	
 (U) Software Development (U) System Engineering Development (U) Configuration Management (U) Travel 	365 853 081 034	233 600 065 045	1,166 459 070 107	
(U) Total	1,441	1,017	1,887	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands) Not Applicable	(housands)			
	Page 3 of 3 Pages	Pages		Exhibit R-3

1702

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION SE	HEET (R	-2 Exhi	bit)		DATE	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development		PE NU 090	PE NUMBER AND TITLE 0901218F CIVIL	⊓⊓LE Sivilian C	PE NUMBER AND TITLE 0901218F Civilian Compensation Program	ation Pro	gram		
PROJECT NO. AND NAME 1 Civilian Compensation Program				:					
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
1 Civilian Compensation Program	5,817	5,714	5,917	6,146	6,401	6,593	6,791	Continuing	Continuing
(U) A. Mission Description and Budget Item Justification This program element provides for payment of civilian compensation benefits for disability due to personal injury sustained while in the performance of duty or due to employment-related disease according to the Federal Employees Compensation Act (FECA) under Title 5 U.S.C. Chapter 81. The Department of Labor (DOL) administers this program and charges the Department of the Air Force for its employee costs; therefore, this is a MUST PAY bill for Air Force. The PE excludes manpower authorizations and costs.	mpensation t doyees Comp he Air Force	enefits for d ensation Act for its emplo	isability due ((FECA) un oyee costs; t	to personal der Title 5 U herefore, thi	injury susta J.S.C. Chap s is a MUST	ined while ii ter 81. The ' PAY bill fo	n the perforn Department r Air Force.	nance of dut of Labor (De The PE exc	or due to DL) ludes
 (U) FY 1995 (\$ in Millions): (U) \$5,817 Funded and paid disability compensation of personnel assigned to RDT&E activities for injuries and/or illnesses in the performance of duties or due to employment-related disease. (U) \$5,817 Total 	ation of persc	nnel assigne	d to RDT&	E activities f	or injuries a	nd/or illness	es in the per	rformance of	duties or
 (U) <u>FY 1996 (\$ in Millions)</u>: (U) \$6,024 Required to continue a level of effort program to compensate employees assigned to RDT&E facilities for work-related injury or disease. (U) \$6,024 Total 	program to	compensate 6	employees a	ssigned to R	DT&E facili	ities for worl	k-related inji	ury or diseas	oi.
 (U) <u>FY 1997 (\$ in Thousands)</u>: (U) \$6,260 Required to continue a level of effort program to compensate employees assigned to RDT&E facilities for work-related injury or disease. (U) \$6,260 Total 	program to	compensate e	employees a	ssigned to R	DT&E facili	ities for worl	k-related inji	ury or diseas	6j
		Page 1 of 3 Pages	3 Pages				Exhibit R-2	1-2	

1703 UNCHASSIFIED



RDT&E BUDGET ITEM JUSTIFICATIO	TIFICATION SHEET (R-2 Exhibit)	R-2 Exhibit)		DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0901218F CIVIII	TITLE Civilian Comp	PE NUMBER AND TITLE 0901218F Civilian Compensation Program	gram
PROJECT NO. AND NAME 1 Civilian Compensation Program				
(U) B. Program Change Summary (\$\section{1}{2}\$ in Thousands)				
 (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value (Not Applicable) 	FY 1996 5,860	FY 1997 5,951	Total Cost	
a. Cong Uen Keduchons b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1995 PB +162 (U) Current Budget Submit/President's Budget 5,817	+164	+309		
(U) Change Summary Explanation: Funding: Increases in FY95 (+\$164), and FY97 (+\$309) for civilian injury and unemployment compensation costs are due to medical inflation increases and Consumer Price Index (CPI) increases. This information was provided by the Department of Labor (DOL) based on their analysis of FY95 Federal increases and Consumer Price Index (CPI) increases. This information was provided by the Department of Labor (DOL) based on their analysis of FY95 Federal Employees Compensation Act (FECA) Chargeback costs. DOL administers this program and charges the Air Force for its employee's compensation costs; therefore, both programs are MUST PAY bills mandated by law (5 USC, Chapter 81). DOL bills the Air Force two years in advance for civilian injury compensation benefits, e.g. FY93 bill due in FY95. DOL bills the Air Force for unemployment compensation paid Air Force employees quarterly on costs paid by state employment offices, bills must be paid in 30 days.	9) for civilian injur n was provided by t isters this program C, Chapter 81). DG Force for unemploy	y and unemployme the Department of I and charges the Ai OL bills the Air Foi yment compensatio	nt compensation co Labor (DOL) based ir Force for its emp rce two years in ad n paid Air Force er	nd FY97 (+\$309) for civilian injury and unemployment compensation costs are due to medical inflation This information was provided by the Department of Labor (DOL) based on their analysis of FY95 Federal its. DOL administers this program and charges the Air Force for its employee's compensation costs; ed by law (5 USC, Chapter 81). DOL bills the Air Force two years in advance for civilian injury DL bills the Air Force employees quarterly on costs paid by
Schedule:				
Technical:				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SUL M	LIFICAT	ION SH	EET (R	2 Exhit) E		DATE	March 1996
BUDGET ACTIVITY 7 - Operational System Development			PE NUN 0901	PE NUMBER AND TITLE 0901218F CIVIII	⊤∟E ivilian Cc	mpensa	PE NUMBER AND TITLE 0901218F Civilian Compensation Program	ŀ	
PROJECT NO. AND NAME 1 Civilian Compensation Program									
(U) C. Other Program Funding Summary (\$ in Thousands)	housands)							Ę	
(U) Operation and Maintenance	FY 1995 20,642	FY 1996 23,814	FY 1997 21,283	FY 1998 21,562	FY 1999 22,355	FY 2000 22,679	FY 2001 23,528	To Compl Cont'd	Total Cost Cont'd
			Page 3 of 3 Pages	Pages				Exhibit R-2	
			1705						
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RDT&E BUDGET ITEM JUSTIFICATION	TIFICATION SHEET (R-2 Exhibit)	re March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	1001004F International Activities	

PROJECT NO. AND NAME

00AH Shape Tech Center, AGARD, AFIPSA, ICRD&A, AFMC Support

COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost
00AH Shape Tech Center, AGARD, AFIPSA, ICRD&A, AFMC Support	1,849	3,606	3,633	3,745	3,862	3,950	4,032	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

The mission of this budget activity is to gain access to the world's best defense technologies, eliminate costly duplication of research and development efforts, accelerate availability of defense systems, and to deploy and sustain common or interoperable USAF and Allied equipment through international cooperative research and development. The USAF is party to multiple international cooperative agreements to solve common US and Allied military scientific and technological problems and to develop materiel solutions to harmonize coalition requirements. This budget activity funds the Department of the Air Force to support, develop, process, negotiate, implement, and manage these international cooperative agreements and projects in compliance with statutory reporting provisions and exacting legal statutes, fiscal constraints, technology transfer are domestic and international technology assessment teams; specialized working groups; long-term technology project developments; support for cooperative opportunity assessments; developing, processing, and negotiating international agreements; oversight of international cooperative research and development (R&D) projects; overseas controls, intellectual property rights, third party transfer provisions, quid-pro-quo criteria, industrial base factors, and political-military interests. Included in this budget R&D liaison and coordination offices; bilateral and multilateral staff talks; and exchanges of scientist and engineers. Funds NATO Air Force Armaments Group (NAFAG), and NATO Advisory Group for Aerospace Research and Development (AGARD)

Justification for Budget Activity Assignment

This program element funds general R&D management for all USAF international cooperative R&D. This includes management support and execution of projects in (1) Basic Research (2) Concept Exploration (3) Demonstration and Validation (4) Engineering and Manufacturing Development and (5) Production.

(U) FY 1995 Accomplishments:

SHAPE Technical Center (STC) - Funded US R&D coordination office and administrative support to eight US professionals assigned to the

Von Karman Institute (VKI)- Funded US share of the VKI budget as approved by US Mission NATO.

Page 1 of 9 Pages

RD	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE March 1996
вирсет Астіміту 7 - Operational Sy	DOGET ACTIVITY - Operational System Development 1001004F International Activities	
PROJECT NO. AND NAME 00AH Shape Tech C	PROJECT NO. AND NAME 00AH Shape Tech Center, AGARD, AFIPSA, ICRD&A, AFMC Support	
(U) \$500	Advisory Group for Aerospace R&D (AGARD) - Funded US national-level representation at HQ AGARD Delegates Board. Funded the 1995 AGARD National Delegates Board Meeting in the US as the host nation. Funded technical experts from Air Force field-level and US industry/university-level to support 7 technical panels, 21 working groups, 4 study groups, and 1 study committee sponsored by NATO AGARD. Funded technical reports and exchanges in 12 areas as follows: (1) Limitations and Enhancement in Situational Awareness, (2) Aerodynamics of Stores Integration and Separation, (3) Loss Mechanisms and Unsteady Flow in Turbomachinery, (4) Advanced Aeroservoelastic Testing and Data Analysis, (5) Widespread Fatigue Damage in Military Aircraft, (6) Neurological Limitations of Aircraft Operations: Human Performance Implications, (7) Progress and Challenges in Computational Fluid Dynamics Methods and Algorithms, (8) Advanced Aero-Engine Concepts and Controls. (9) Practical Implications of Thermal Mechanical Fatigue in the Performance of Military	elegates Board. Funded the Air Force field-level and US ee sponsored by NATO Situational Awareness, (2) ry, (4) Advanced ical Limitations of Aircraft Methods and Algorithms, (8)
- (U) \$219	Aircraft Engines, (10) Design, Qualification, and Maintenance of Vibration-Free Landing Gear, (11) Enhancing the Survivability of Military Transport Aircraft, and (12) Use of Commercial Satellites for Military Applications. Expanded Partnership for Peace initiative through AGARD outreach program incorporating Eastern Europe and Former Soviet Union (FSU) scientific and technical groups. Air Force International Programs Support Agency (AFIPSA) - Funded USAF management of International Cooperative R&D Agreements. The following agreements were signed in FY95: Australia: (1) Aircraft and Stores Compatibility Testing; Canada: (1) Weapons Separation Prediction, (2) Air Breathing Propulsion T&E, (3) Unmanned Aerial Vehicle, (4) Air Base Operability, (5) Digital Communications Equipment; Four-Powers (Germany, France, UK, and US): (1) Electro-Optic Technology Demonstration; France: (1) Image/Information Reformatter, (2) High Speed Tires; Germany: (1) Master Research and Technology Project Agreement; Israel: (1) Electronic Warfare, (2)	g the Survivability of Military Peace initiative through cal groups. Cooperative R&D Agreements. ada: (1) Weapons Separation ital Communications ice: (1) Image/Information : (1) Electronic Warfare, (2)
- (U) \$801	Biodynamics and Human Factors Engineering; Poland: (1) Master Information Exchange Agreement; The Netherlands: (1) Unmanned Aerial Vehicles; NATO: (1) NATO AWACS Radar System Improvement; United Kingdom: (1) Master Technology Research and Development Agreement, (2) Conventional Air Launched Munitions, (3) Master Information Exchange Agreement, (4) Joint Advanced Strike Technology. In addition preliminary work for potential FY96 agreements was started. International Cooperative Research, Development and Acquisition (ICRD&A) - Funded Air Force Materiel Command and HQ Air Force ICRD&A activities to identify, assess, and develop support packages for new Air Force international cooperative projects culminating in the approval of the above listed international agreements and processing of new candidate agreements. Funded USAF leadership initiatives as the new Chair of the NATO Air Force Armaments Group (NAFAG). Funded USAF headquarters and field-level representation at the US-Japan Systems and Technology Forum. NATO Four-Power Council. NAFAG and its 6 Substants to promote harmonization of requirements	therlands: (1) Unmanned nology Research and nent, (4) Joint Advanced Strike. Command and HQ Air Force e projects culminating in the AF leadership initiatives as the spresentation at the US-Japan pration of requirements
- (U) \$1,849	standardization, and development of international cooperative R&D programs. Supported engineer and scientists exchanges with 14 nations. Funded USAF overseas R&D liaison offices. Funded management support and oversight of USAF Foreign Comparative Test (FCT) Program and NATO Cooperative R&D Program. Partially funded deployment of the Joint STARS to promote it as part of the solution to the NATO Alliance Ground Surveillance requirement. Funded acquisition and assessment of technology from the newly independent states of the FSU. Total	ts exchanges with 14 nations. parative Test (FCT) Program of the solution to the NATO idependent states of the FSU.
	Page 2 of 9 Pages	Exhibit R-2

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RDT&E BUDGET ITEM JUSTIFICATION	TIFICATION SHEET (R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	1001004F International Activities	
PROJECT NO. AND NAME		
00AH Shape Tech Center, AGARD, AFIPSA, ICRD&A, AFMC Support		
700 13X 400/		

2//7	
(U) \$100	STC - Fully fund US R&D coordination office and administrative support to US professionals assigned to the STC.
(U) \$575	VKI - Fund the US share of the VKI budget as approved by US Mission NATO and award two USAF VKI fellowships.
(U) \$500	AGARD - Fully fund US national-level representation at HQ AGARD Delegates Board. Fund technical experts from Air Force field-level and
· ·	US industry/university-level to support 7 technical panels, 21 working groups, 3 study groups, and 1 study committee sponsored by NATO
	AGARD. Fund technical reports and exchanges in 13 areas as follows: (1) Minimizing Collateral Damage During Peace Support Operations,
	(2) Radar Cross-Section Analysis and Imaging of Military Targets, (3) Remote Sensing, (4) Space Systems Contributions to NATO Defense
	Strategy, (5) Advanced Architectures for Mission Avionics, (6) Characterization and Modification of Wakes from Lifting Vehicles in Fluids,
	(7) Aerodynamics of Wind Tunnel Circuits and their Components, (8) Aging Combat Aircraft Fleets - Long Term Implications, (9) Smart
	Structures and Materials - Implications for Military Aircraft of a New Generation, (10) Medical Complications and Screening for Sustained
	High-G and Positive Pressure Breathing, (11) Service-Life of Solid Rocket Propellants, (12) Acute Visual and Cognitive Incapacitation of
	Aircrews: Protection Management and Cockpit Integration, and (13) Aircraft Fire Safety. Continue the Partnership for Peace initiative
	through AGARD outreach program incorporating additional Eastern Europe and Former Soviet Union scientific and technical groups.

Page 3 of 9 Pages

Exhibit R-2

UNCLASSIFIED

March 1996 DATE 1001004F International Activities RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 00AH Shape Tech Center, AGARD, AFIPSA, ICRD&A, AFMC Support 7 - Operational System Development PROJECT NO. AND NAME BUDGET ACTIVITY

(U) \$250

lonosphere on Communications and Surveillance Systems, (7) Subminiature Data Acquisition and Telemetry System, (8) Very High Resolution Components, (2) Techniques and Technologies for Aerial Reconnaissance and Geographic Data, (3) Optical Properties of the Environment, (4) External Composite Concrete Reinforcing for Enhanced Structural Survivability; (4) Master Research and Technology Project; Japan: (1) FS-Technology for Military Aircraft, (2) Command and Control, (3) High-powered Microwaves, (4) Master Technology Research & Development Missile, (9) Short Range Air-to-Surface Missile Technologies, (10) Structural Integrity of Aging Aircraft, (11) Advanced Flooding Agent, (12) Post 2020 Armament Concepts and Technologies, (5) Aircraft Armament Avionics Agility, (6) Insensitive High Explosive for Penetrators, (7) (Germany, France, UK, and US): (1) High Powered Microwaves, (2) Aircraft Survivability Technologies, (3) Non-Destructive Evaluation, (4) Agreement, (5) Regional/Sector Operational Control Center Modernization Program; Egypt: (1) Seismic Monitoring Station; Four-Powers Acoustic Technologies, (7) Single Mode Fibers for Array Imaging, (8) Joint Air-to-Surface Standoff Missile/Conventionally Armed Standoff (maging by Interferometry, Germany: (1) Software Technology, (2) Trans-Atlantic Research into Air Combat Engagement, (3) Free Piston X Production; Korea: (1) Seismic Monitoring Station; Multilateral: (1) Master Advanced Medium Range Air-To-Air Missile (AMRAAM) Users' Group Agreement, (2) Command Control Communications and Intelligence (C31) Interoperability; The Netherlands: (1) Advanced ECM Transmitter; (2) Measurement and Analysis of the Infrared Celestial Background; Pakistan: (1) Seismic Monitoring Station; Russia: (1) Seismic Monitoring Station; Sweden: (1) Electromagnetic Effects Measurement and Analysis Techniques, (2) Electromagnetic Effects System, (2) Experimental Air Operations Center, (3) Ramburner, (4) Effects of the Ionosphere on C3I Systems, (5) Vista Warrior, (6) Non Shock Tunnel, (4) Observations and Modeling for Space Weather; Israel: (1) Photonics Technology, (2) Unmanned Aerial Vehicles, (3) Experiments and Applications; Turkey: (1) Seismic Monitoring Station; United Kingdom: (1) Joint Tactical Information Distribution Tactical Laser Hardened Material, (8) Future Multiband, Multiwaveform Modular Tactical Radio; France: (1) Reliability of Electronic Integrity of Aging Aircraft; Brazil: (1) Ionospheric Experiments, (2) Engineer and Scientist Exchange Agreement; Canada: (1) Crew Military Satellite Communications Technology, (5) Oxygen/Idide Laser Radiation and Material Interaction Tests, (6) The Effects of the AFIPSA - Fully fund AFIPSA and USAF to clear a growing backlog of proposals for International Cooperative R&D Agreements. The Dense Metal Case Penetrating Weapon, (13) Aftbody/Nozzle Aeroacoustic Program, (14) Programmable Integrated Ordnance Suite. In following is a list of proposed candidate agreements for signature in FY96: Australia: (1) Adaptive Flexible Structures, (2) Structural addition preliminary work for FY97 agreements will be started.

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RD	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	
вирдет Астіміту 7 - Operational System Development	tem Development 1001004F International Activities	
PROJECT NO. AND NAME 00AH Shape Tech Ce	PROJECT NO. AND NAME 00AH Shape Tech Center, AGARD, AFIPSA, ICRD&A, AFMC Support	
- (U) \$1,091 - (U) \$1,090	ICRD&A - Fund USAF overseas R&D liaison offices. Fund management support and oversight of USAF Foreign Comparative Test Program and NATO Cooperative R&D Program. Fund USAF participation at the NATO Four-power Council, NAFAG, and its six subgroups to promote NATO harmonization of requirements, standardization, and new cooperative R&D programs. Fund USAF participation at the US-Japan Systems and Technology Forum and cooperative opportunities with the FSX program. Fund expanded technology acquisition contacts and follow-on cooperative opportunities with Russia, Ukraine, and Eastern Europe. Partially fund technical assessments and international negotiation start-up costs associated with promising cooperative R&D programs. This PE will also fund all preliminary and negotiation costs associated with USAF NATO cooperative R&D funded programs. Funds support for the NATO Board of Directors, and the Technology Booth at international forums. AFMC - Fully from Air Cree Material Command activities to identify, assess, and develop support packages and project arrangements as required by statute for the above cited new candidate agreements. Fund Material Command initiatives and technical support to the Chair of the NAFAG. Support Material Command activities for engineer and scientist exchanges, USAF Foreign Comparative Test, and NATO Cooperative R&D Programs. Fund USAF participation in panel meetings of the Technical Cooperative Program. Air Standardization Coordinating Committee, Standard NATO Agreements Working Groups, and NATO Alliance Ground Surveillance Program Office. Fund exploratory visits to France, Germany, Israel, United Kingdom and other countries on new technology exchange projects. Fund the International Focal Point Officers at Centers and Laboratories to assist program officers and project engineers identify, reast and staff new international cooperative agreements. This program will, in addition, fund the support, management and documentation of these ICR&D	
- (U) \$3,606	Total	
(U) <u>fr 1397</u> - (U) \$100 - (U) \$245	STC - Fund US R&D coordination office and administrative support to US professionals assigned to the STC. ESEP -Will fund the execution and the management oversight of the Engineer and Scientist Exchange Program (ESEP).	-
	Page 5 of 9 Pages Exhibit R-2	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) DATE March	March 1996
BUDGET ACTIVITY 7 - Operational System Development 1001004F International Activities	
PROJECT NO. AND NAME 00AH Shape Tech Center, AGARD, AFIPSA, ICRD&A, AFMC Support	
 (U) \$2.50 AFIPSA - Fully fund AFIPSA to continue clearing the backlog of proposals for international Cooperative R&D Agreements. The following is a sample list of exadidate agreements for signatures, (1) Structural integrity of Agrica Artifaction (1) Schware Engineering, Canada (1) Infrared Seperal Imaging of Lasers and Protection, (2) Aircraft Battle Damage Repair, (3) Distributed Simulation Technologies, (4) Tacical Missiles Propellants; France. (1) Advanced Training Technologies for Aircraft Maintenance, (2) Characterization of the Optical Properties of the Environment, (3) Nor-Thermal, Electronic Beam Processing of Space Structures, (3) Space Bracel Food Based Focal Plane Arrays, Germany: (1) Harmonization of Safety Regulations for Declares Material; (2) Fight and Support for Aircraft, Hary; (1) Distributed Simulations for Declarations and Cround Test Methodolegies and Support for Aircraft, Hary; (1) Distributed Standards and Track, (2) Crow Escape System, (3) Digital Beam Forming Badar; Kazakhstan; (1) Spatial Monitoring Agreement; (2) Indian Testal Professional Moderation Propert; (3) MATO AWACS Mid-Term Moderation Propert; (3) MATO AWACS Mid-Term Moderation Propert, (3) Maister Technology, Research and Development Agreement, (2) Pilot Performance and Mental Workload; Trilateral (Marster) Maister Technology, Research and Development Agreement, (2) Pilot Performance and Mental Workload; Trilateral (Marster) (1) Maister Technology, 16 Spate Communications Protect Marsterial Calls Propert Repairs (1) Annual Marker Technology, (4) Spate Communications Protect Marsterial (Marsterial Annual Marsterial Mars	ats. The following is a Spectral Imaging of by Human Effects of Propellants; France: ronment, (3) Non-ation of Safety Fechnology; Japan: nitoring Agreement: Term Moderization eoples Republic of y Research and continuous Acquisition ion, Target, Avionics Systems. In r Force field-level and ansored by NATO National Delegates eace initiative through arative Test Program x subgroups to icipation at the US-acquisition contracts and international and international of Directors, and the
Page 6 of 9 Pages Exhibit R-2	R-2







7 - Operational System Development BUDGET ACTIVIT

1001004F International Activities

00AH Shape Tech Center, AGARD, AFIPSA, ICRD&A, AFMC Support PROJECT NO. AND NAME

Fund HQ staff to support and promote international research and development cooperation throughout AFMC. Fund small contracts in support Cooperation Program, Air standardization Coordinating Committee, Standard NATO Agreements Working Groups, and other NATO forums. Fund periodic bilateral meetings to define new areas of possible cooperation, then fund exploratory visits to France, Germany, Israel, United aboratories to assist program officers and project engineers in identifying, creating and staffing new international cooperative agreements. required by statute for new and existing candidate agreements. Support Materiel Command activities for engineer and scientist exchanges, AFMC - Fully fund Air Force Material Command activities to identify, assess, and develop support packages and project arrangements as Kingdom, Canada, and other countries on new technology exchange projects. Fund the International Focal Point Officers at Centers and JSAF Foreign Comparative Test, and NATO Cooperative R&D Programs. Fund USAF participation in panel meetings of the Technical of technology initiatives. This program will, in addition, fund the support, management and documentation of these ICR&D efforts.

(U) \$3,633

(U) Acquisition Strategy:

rationalize cooperative opportunities, assess allied technologies, and generate sound, cost-effective cooperative programs between the USAF and our international partners. Once these initiatives and programs are started as international efforts they are transferred to the appropriate technology or systems program office and are funded in their interoperable equipment with our allies; (b) leverage USAF resources with our allies through cost sharing and economies of scale; and (c) exploit the best US and allied technologies for equipping coalition forces. We obtain these benefits only after international cooperative opportunities are identified, explored, developed, assessed and after the international agreements are negotiated and concluded. This program element provides funds to execute up front armaments cooperation responsibilities, This program element is the only source of USAF funds to pursue opportunities for international armament's cooperation to (a) deploy and support common or own program elements.

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1777	3,762			•				-129	3,633	
2007	3,713		•	9/-	-5	-29			3,606	
27777	1,915	1,910	•	-21	40				1,849	
	(U) Previous President's Budget	(U) Appropriated Value	(U) Adjustments to Appropriated Value	a. Cong General Reductions	b. SBIR	c. Omnibus or other above reprogramming threshold	 d. Below threshold reprogramming 	(U) Adjustments to budget years since FY96 PB	(U) Current Budget Submit/President's Budget	

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March 1996 DATE 1001004F International Activities RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 00AH Shape Tech Center, AGARD, AFIPSA, ICRD&A, AFMC Support 7 - Operational System Development PROJECT NO. AND NAME **BUDGET ACTIVITY**

(U) Change Summary Explanation:

responsible for funding this program. This PE will assume the funding execution as well as the management oversight of the Engineer and Scientist Exchange Program Funding: In FY97 responsibility for funding Von Karmin Institute (VKI) will transfer to the Air Force Office of Scientific Research (AFOSR), AFOSR/NI will be (ESEP). No transfer of funding is involved.

Schedule: N/A

Technical: N/A

(U) C. Other Program Funding

Related RDT&E:

Comparative Test (FCT) (PE 0605130D) programs. It also provides international agreement support for 6.1 through 6.3 programs for USAF Laboratories and for 6.4 through 6.5 programs for USAF Product and Logistics Centers. (U) This program provides for USAF management of NATO Cooperative R&D funded by DoD (PE0603790D) and USAF (PE0603790F) and DoD funded Foreign

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SUC M	Ē	CATI	NO	SHEE.	IT (F	≀-2 E	xhib	it)			DATE	March 1996	6
BUDGET ACTIVITY 7 - Operational System Development				PE 1	PE NUMBER AND TITLE 1001004F Inter	R AND	TITLE ntern) TITLE International Activities	al Ac	tivitie	Sé			
PROJECT NO. AND NAME 00AH Shape Tech Center, AGARD, AFIPSA, ICRD&A,		AFMC	AFMC Support	r t										
(U) D. Schedule Profile		FY 1995	995			FY 1996	<u> </u>			FY 1997	761			
i i	1	2	3	4	1	7	3	4	1	7	33	4		
(U) -VKT Board of Directors	×	×			×	×	*							
-SHAPE Technical Center Program Review	×	!	×		×	}	×		×		×			
-AGARD Delegate Board		×		×		×		×		×		×		
-Aerospace Applications Studies Committee	× ×				××				××					
-Diateial recuirongy text rejects proces -Conerative R&D Projects	* ×	×	×	×	×	×	×	×	: ×	×	×	×		
-Foreign Comparative Testing Prioritization Board			×				×				×			
-NATO Cooperative R&D Prioritization Board		×					×				×			
-R&D Loans of Defense Equipment	×	×	×	×	×	×	×	×	×	×	×	×		
-Systems & Technology Forum (JA)		×		×		×		×		×		×		
-Other Bilateral forums (CA, BZ)	×		×		×		×		×		×			
-Data/Information Exchange Annexes	×	×	×	×	×	×	×	×	×	×	×	×		
-Engineer and Scientist Exchanges	×	×	×	×	×	×	×	×	×	×	×	×		
-NATO Air Force Armaments Group		×	×			×		×		×	×			
-Four-Power Air Senior National			×		×		×	×			×			
-Four-Power Long-Term Technology			×	×		×		×		×		×		
				Page 5	Page 9 of 9 Pages	Saot						Щ	Exhibit R-2	

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RDT&E BUDGET ITEM JUS	STIFICA	TION S	HEET (R	TIFICATION SHEET (R-2 Exhibit)	bit)		DATE N	March 1996	9
BUDGET ACTIVITY 7 - Operational System Development		PE N(1001018F NATC	PE NUMBER AND TITLE 1001018F NATO JSTARS	TARS				
PROJECT NO. AND NAME 0002 NATO JSTARS									}
COST (\$ In Thousands)	FY 1995 Actual	FY 1996 Estimate	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	Cost to Complete	Total Cost

(U) A. Mission Description and Budget Item Justification

NATO JSTARS

0002

0

4,500

0

This program initiates a U.S. Government effort to provide for NATO, from airborne platforms, near-real time surveillance and targeting information on moving and operational and tactical commanders to make and execute battle decisions. To meet these needs, NATO initiated the Alliance Ground Surveillance (AGS) program. STARS will be capable of providing target information for paring direct attack aircraft and standoff weapons against selected targets. The system will be capable of attack information in all light and near-all-weather conditions. The operational utility of the system was effectively demonstrated by the outstanding performance of Army effort currently defines an AGS system within the NATO architecture based on JSTARS. The Air Force is lead service. A NATO AGS system based on Joint Development because the US version of the program is a fielded operational system; it is expected that the NATO AGS version of the program would utilize major being cued by other reconnaissance, surveillance, and target acquisition systems; able to respond rapidly to worldwide contingencies: and provide surveillance and The US government has recommended Joint Surveillance Target Radar System (Joint STARS) as a candidate to fulfill the AGS requirement. The Air Force and stationary ground targets (growth to maritime operations), slow moving rotary and fixed wing aircraft, and rotating antennas. This information would enable the two developmental aircraft in support of combat operations during Desert Storm and Bosnia. This program is in budget activity 7 - Operational System elements of the US program, requiring only minor changes to meet the NATO requirement.

(U) FY 1995 (\$ in Thousands):

- System Definition for Interoperability with NATO Contingency Operations (U) 1,876
 - (U) 74 TEMS and other support
- (U) 1,950 Total*

(U) FY 1996 (\$ in Thousands):

- (U) 3,575 Phase II NATO Study
- (U) 80 Embryonic Program Office
 - (U) 745 ESC/JPO Support Cost
 - (U) 100 Travel
- (U) 4,500 Total

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION SHEET	(R-2 Exhibit)	DATE March 1996
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 1001018F NATC	FE NUMBER AND TITLE 1001018F NATO JSTARS	
PROJECT NO. AND NAME 0002 NATO JSTARS			
(U) B. Program Change Summary (5 in Thousanus)		Total	
(U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value (U) Adjustments to Appropriated Value	$\begin{array}{ccc} \frac{Y \ 1995}{0} & \overline{FY \ 1996} \\ 0 & 0 \\ 1,950* & 4,500 \end{array}$	<u>FY 1997</u> Cost 0	
b. SBIR	#		

* FY95 funds were identified in PE 64770F in support of the initial NATO AGS effort. FY96 Appropriations Act added \$6,450 for the NATO AGS effort into Joint STARS PE; this approval (\$6,450) includes the authority to obligate FY95 funds (\$1,950).

0

4,500

1,950*

c. Omnibus or Other Above Threshold Reprogram

d. Below Threshold Reprogramming
(U) Adjustments to Budget Years Since FY 1996 PB
(U) Current Budget Submit/President's Budget

Due to the reclassification of funds the amount of \$190K in SBIR reductions were paid out of PE64770F. These reductions are not reflected in the current data base.

(U) Change Summary Explanation:

Funding

Schedule:

Technical:

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Exhibit R-2

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	M JUSTIFICAT	HS NOI	EET (R-	2 Exhib	[DATE Mar	March 1996	
BUDGET ACTIVITY 7 - Operational System Development		PE NUN 1001	PE NUMBER AND TITLE 1001018F NATO JSTARS	TO JST	ARS				
PROJECT NO. AND NAME									
							:		
(U) C. Other Program Funding Summary (\$ in Thousands)	housands)						Ę	T- 1-0-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	
U) JSTARS	FY 1995 FY 1996	FY 1997 **6,300	FY 1998	<u>FY 1999</u>	FY 2000	FY 2001	Compl	Cost	,
**FY97 funds identified in PE 64770F to support the NATO AGS effort.	NATO AGS effort.								
(U) D. <u>Schedule Profile</u>									
1 (U) Program Definition Study	FY 1995 2 3 4	FY 1 2 ***	<u>FY 1996</u> 2 3	4 1	FY 1997 2 3	7 E			
***Program Study Start	÷								
		Page 3 of 3 Pages	Pages		:		Exhibit R-2		
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